

Service Manual

TOYOTA

ORDER NO.
CRT3806



AUDIO SYSTEM POWER AMPLIFIER

VEHICLE	DESTINATION	PRODUCED AFTER	OEM PARTS No.	ID No.	PIONEER MODEL No.
LEXUS RX	U.S.A., CANADA	August 2004	86100-0E020	-----	GM-8347ZT-91/X1HUC

This service manual should be used together with the following manual(s) listed below.
For the parts numbers, adjustments, etc. which are not shown in this manual,
refer to the following manual(s).

Model No.	Order No.	Mech. Module	Remarks
GM-8337ZT/E	CRT3014		

SAFETY INFORMATION

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
 Health & Safety Code Section 25249.6 - Proposition 65

EXPLODED VIEWS AND PARTS LIST

PACKING SECTION PARTS LIST

*:Non spare part

Mark	No.	Description	GM-8337ZT-92/E	GM-8347ZT-91/X1HUC
*		Cover	CEG1045(x3)	Not used
		Polyethylene Bag	CEG1185	HEG0022
		Polyethylene Bag	CEG1158	Not used
		Carton	CHG4865	HHG5087
		Contain Box	CHL5085(x1/4)	Not used
		Protector(Lower)	Not used	HHP2720
		Protector(Upper)	Not used	HHP2721

EXTERIOR(Page 4)

EXTERIOR SECTION PARTS LIST

Mark	No.	Description	GM-8337ZT-92/E	GM-8347ZT-91/X1HUC
	4	Chassis	CNA2538	HNA2538
	5	Case	CNB2776	HNB2776
	6	Shield Case	CNC9891	HNC9891
	7	Bracket	CND1245	HND1762
	8	Bracket	CND1244	HND1761
E	9	Insulator	CNM7683	HNM7683
	10	Seal	CNM8060	HNM8060
	11	Heat Sink	CNR1651	HNR1651
	12	Amp Unit	CWM8303	CWM9574(Amp Assy)
	14	Screw(M3 x 6)	CBA1393	HBA1393
F	20	Holder	CNC9893	HNC9893
	21	Holder	CNC9894	HNC9894
	22	Bracket	CND1109	HND1109
	24	DSP Unit	CWM8304	CWM9575(DSP Assy)
	27	ASL Unit	CWM8305	HWM8882

ELECTRICAL PARTS LIST(Page 23)

DSP UNIT

Circuit Symbol and No.	Part Name	GM-8337ZT-92/E	GM-8347ZT-91/X1HUC
IC101	IC	PD5767A	PEG010A
R135		RS1/16S102J	RS1/16S3301D
R317		RS1/16S0R0J	RS1/16S100J
R318		RS1/16S0R0J	RS1/16S100J
R337		RS1/16S0R0J	RS1/16S100J
R338		RS1/16S0R0J	RS1/16S100J
R357		RS1/16S0R0J	RS1/16S100J
R358		RS1/16S0R0J	RS1/16S100J
R361		RS1/16S0R0J	RS1/16S100J
R362		RS1/16S0R0J	RS1/16S100J
R363		RS1/16S0R0J	RS1/16S100J
R364		RS1/16S0R0J	RS1/16S100J
R365		RS1/16S0R0J	RS1/16S100J
R366		RS1/16S0R0J	RS1/16S100J
R459		RS1/16S0R0J	RS1/16S100J
R460		RS1/16S0R0J	RS1/16S100J
R479		RS1/16S0R0J	RS1/16S100J
R480		RS1/16S0R0J	RS1/16S100J

AMP UNIT

Circuit Symbol and No.	Part Name	GM-8337ZT-92/E	GM-8347ZT-91/X1HUC
R521		RS1/16S0R0J	RS1/16S100J
R522		RS1/16S0R0J	RS1/16S100J
R523		RS1/16S0R0J	RS1/16S100J
R524		RS1/16S0R0J	RS1/16S100J
R719		RS1/16S221J	RS1/16S1000D
R725		RS1/16S0R0J	RS1/16S100J
R726		RS1/16S0R0J	RS1/16S100J
R928		RS1/16S0R0J	RS1/16S100J
C706		CKSRYB473K25	CKSRYB393K25

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PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

Service Manual

TOYOTA

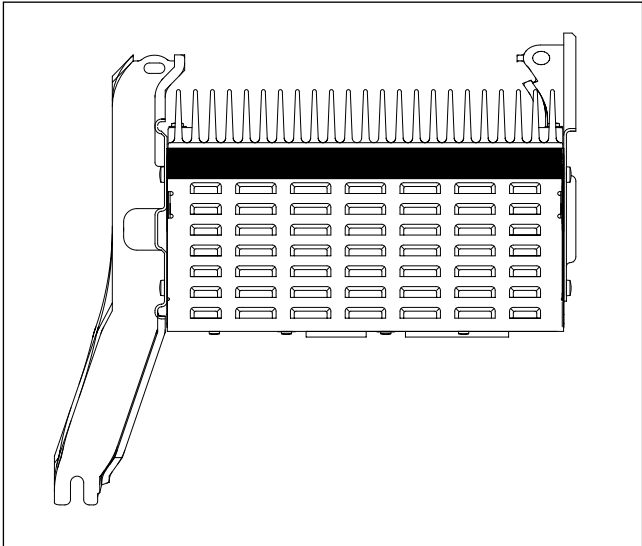
ORDER NO.
CRT3014

LEXUS RX330 **AUDIO SYSTEM** **POWER AMPLIFIER**

VEHICLE	DESTINATION	PRODUCED AFTER	TOYOTA PART No.	ID No.	PIONEER MODEL No.
LEXUS RX330	Europe, Middle Near East, Australia, General Area	February 2003	86100-48010	—	GM-8337ZT/E
			86280-48070	—	GM-8337ZT-91/E
			86100-48010	—	GM-8337ZT-92/E



For details, refer to "Important symbols for good services".



GM-8337ZT/E

● Supplementally model is identical to the original except for the addition of following items.

*: Non Spare Part

Description	Part No.	
	GM-8337ZT-91/E	GM-8337ZT-92/E
Cover	CEG1045(x2)	CEG1045(x3)
Polyethylene Bag	CEG1185	CEG1185
* Polyethylene Bag	Not used	CEG1185
Carton	CHG5005	CHG4865
Contain Box	CHL5095(x1/4)	CHL5085(x1/4)

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

NOTE:



- When diagnosing a product, take care of its heated portion.
 - Power IC (IC802,803)
 - Power Supply IC (IC901,902)
 - DSP IC (IC201)
 - Heat Sink
 - IC Holder

[Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

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1. SPECIFICATIONS

Power source	13.2±0.1V(10.5-16.0V)
Grounding	Negative type
Backup current	0.3mA or less
Dimensions(No Bracket) ...	210mm(W)x51mm(H)x128mm(D)
Weight	1,415g
Maximum output power ...	39W or more(Front-Woofer)
	20W or more(Front-Squawker)
	20W or more(Rear)

2. EXPLODED VIEWS AND PARTS LIST

2.2 EXTERIOR

A

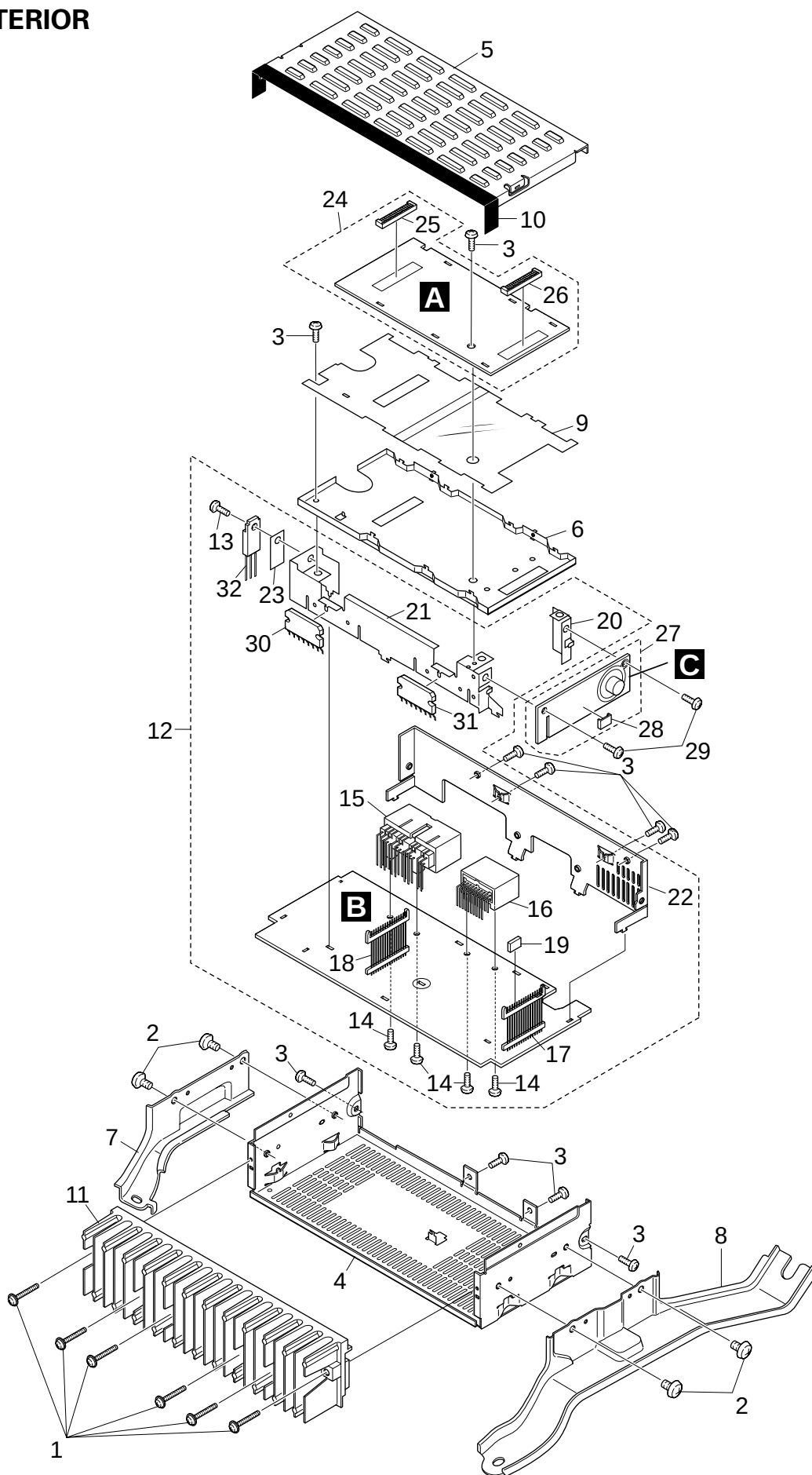
B

C

D

E

F



NOTE:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

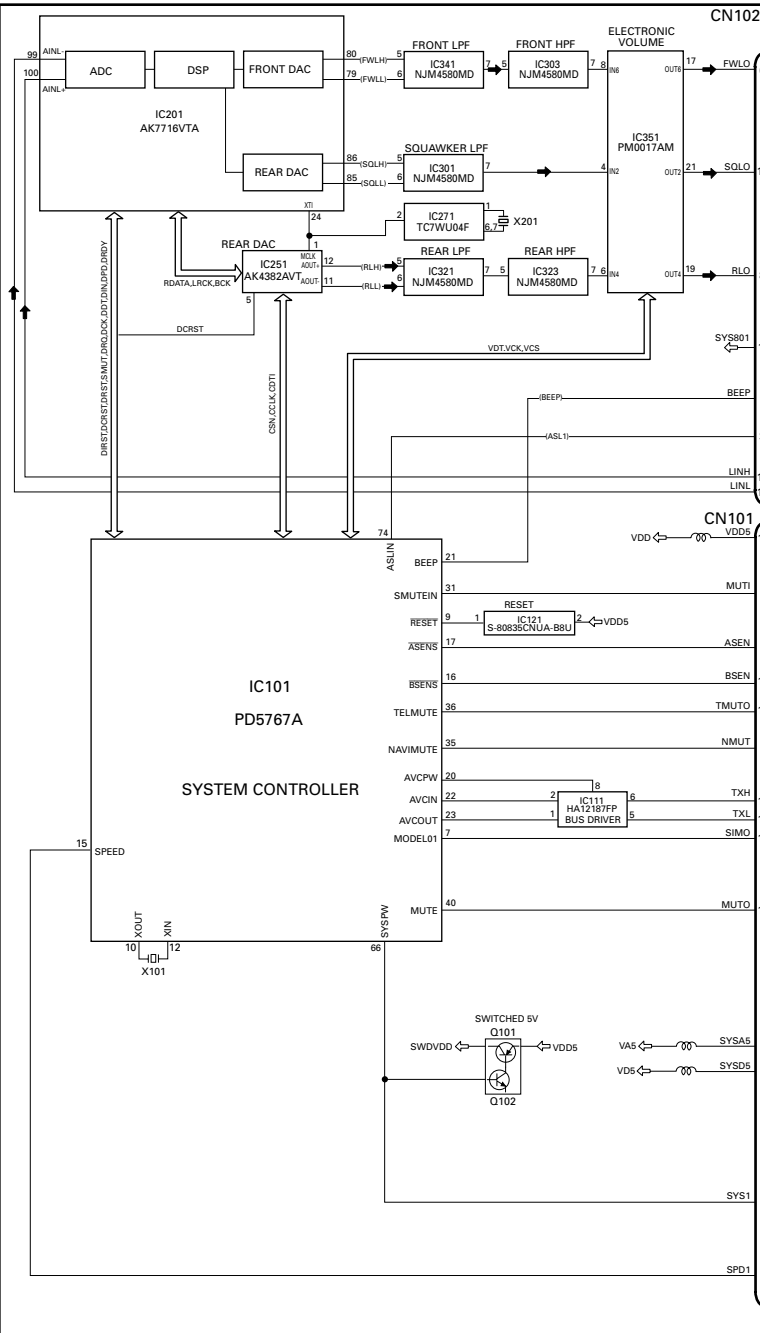
● EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	AMZ30P220FTC
	2	Screw (GM-8337ZT/E, -92)	BMZ40P060FTC
	3	Screw	BSZ26P060FTC
	4	Chassis	CNA2538
	5	Case	CNB2776
	6	Shield Case	CNC9891
	7	Bracket (GM-8337ZT/E, -92)	CND1244
	8	Bracket (GM-8337ZT/E, -92)	CND1245
	9	Insulator	CNM7683
	10	Seal	CNM8060
	11	Heat Sink	CNR1651
	12	Amp Unit	CWM8303
	13	Screw	BSZ26P060FTC
	14	Screw(M3x6)	CBA1393
	15	Connector(CN901)	CKM1363
	16	Connector(CN902)	CKM1364
	17	Plug(CN905)	CKS4569
	18	Plug(CN906)	CKS4569
	19	Connector(CN404)	CKS4639
	20	Holder	CNC9893
	21	Holder	CNC9894
	22	Bracket	CND1109
	23	Sheet	CNM7015
	24	DSP Unit	CWM8304
	25	Socket(CN101)	CKS4616
	26	Socket(CN102)	CKS4616
	27	ASL Unit	CWM8305
	28	Connector(CN403)	CKS4605
	29	Screw	IMS26P060FTC
	30	IC(IC802)	PAL006A
	31	IC(IC803)	TDA7384
	32	IC(IC902)	BA178M05T

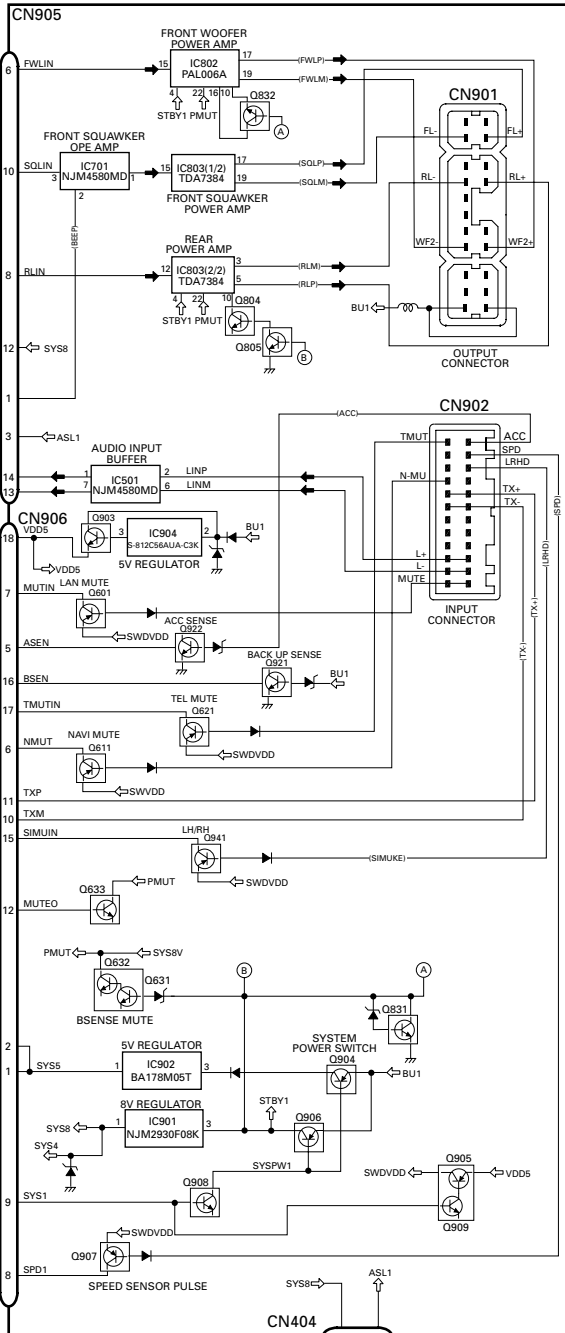
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

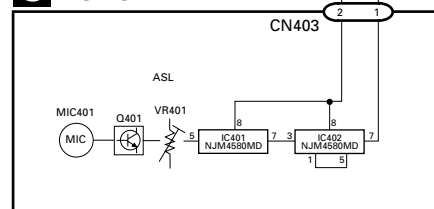
A DSP UNIT



B AMP UNIT



C ASL UNIT



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GM-8337ZT/E

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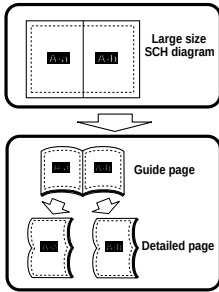
■

7

3.2 SCHEMATIC DIAGRAM (GUIDE PAGE)

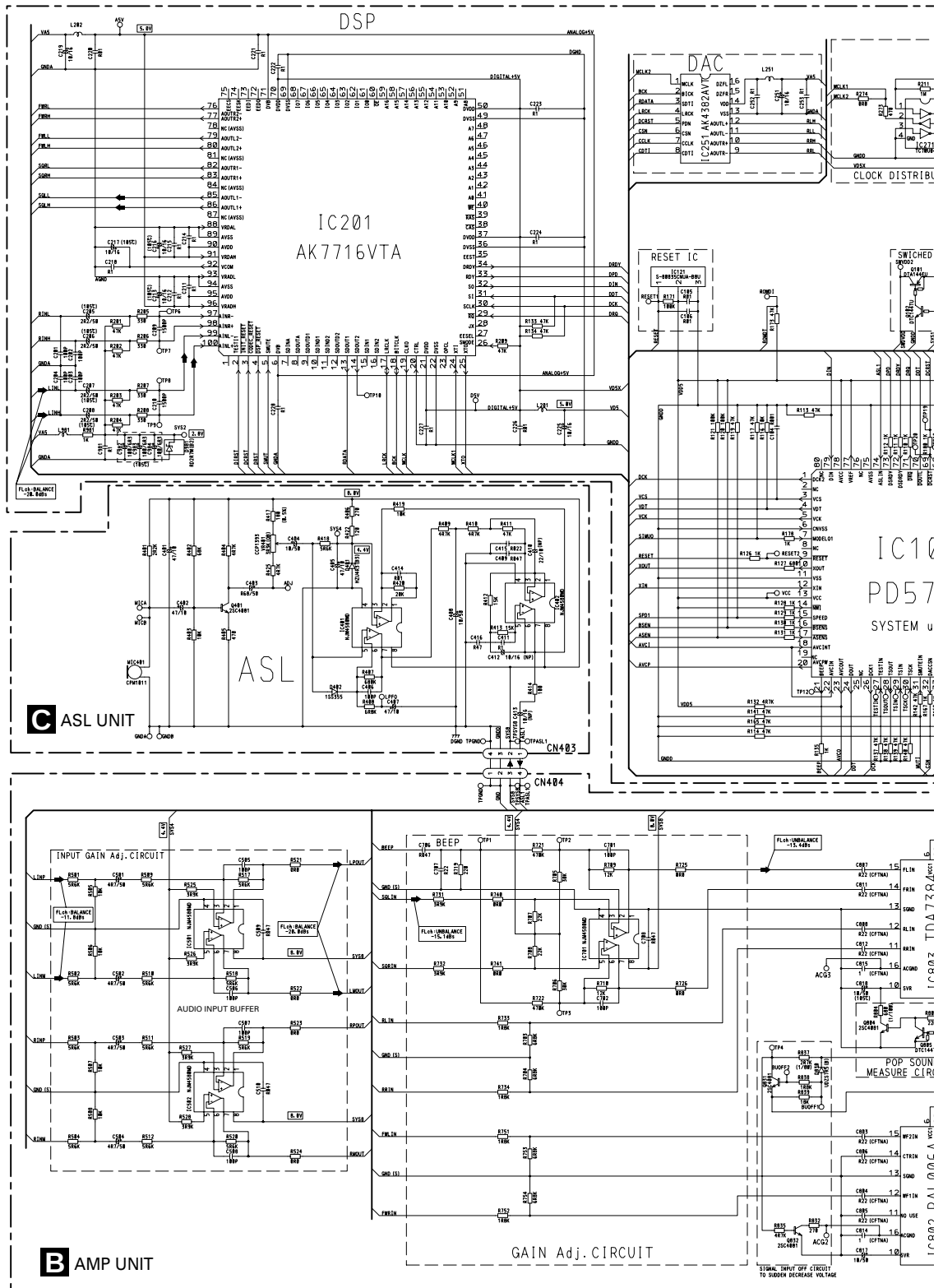
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A



A-a

B



C

D

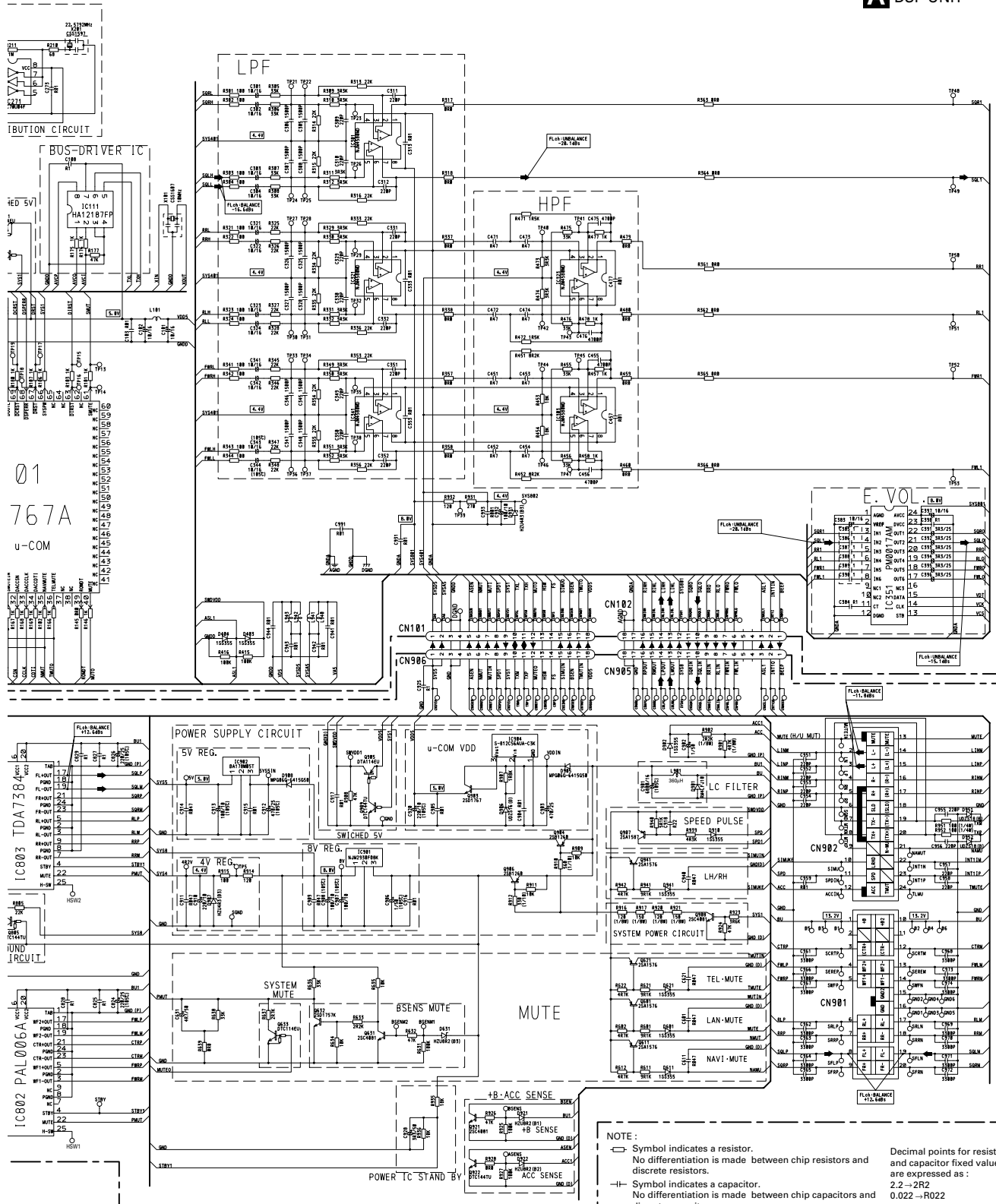
E

F

A B C

A-b

A DSP UNIT



A-b B

A

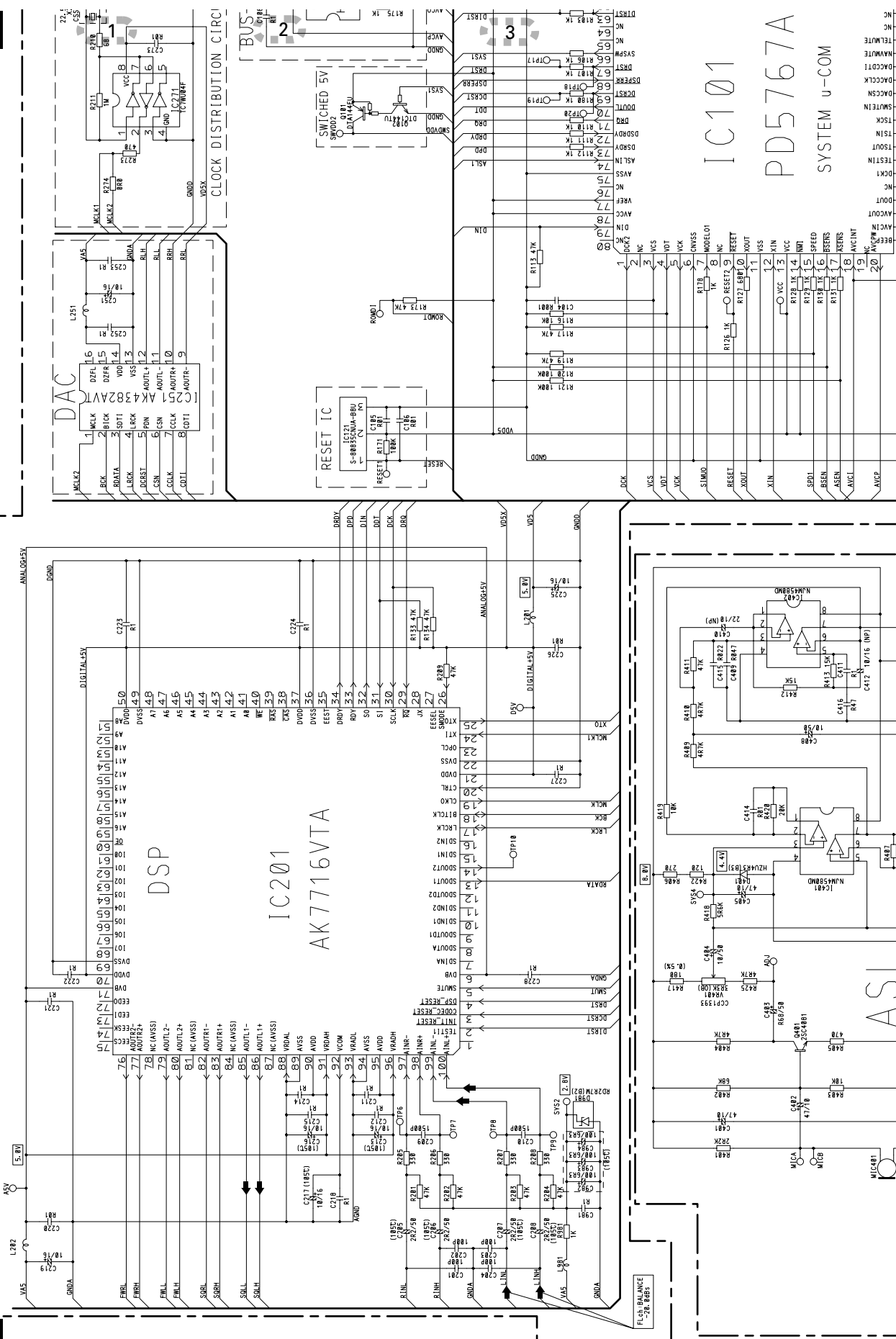
B

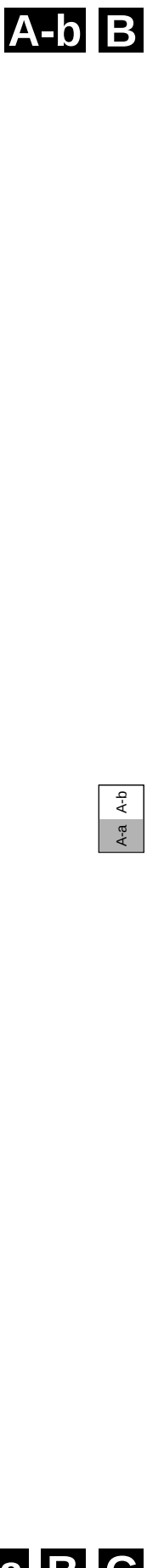
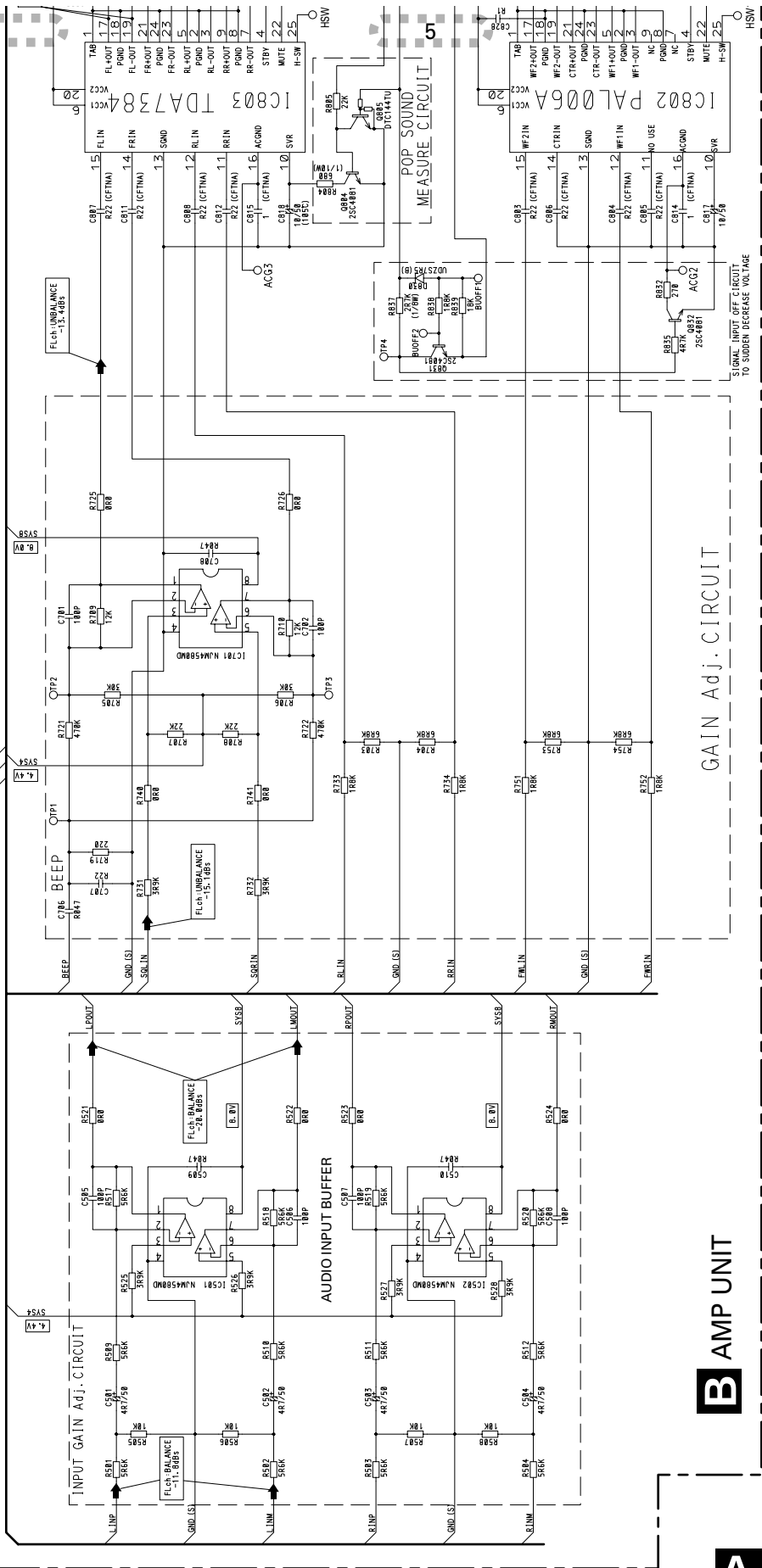
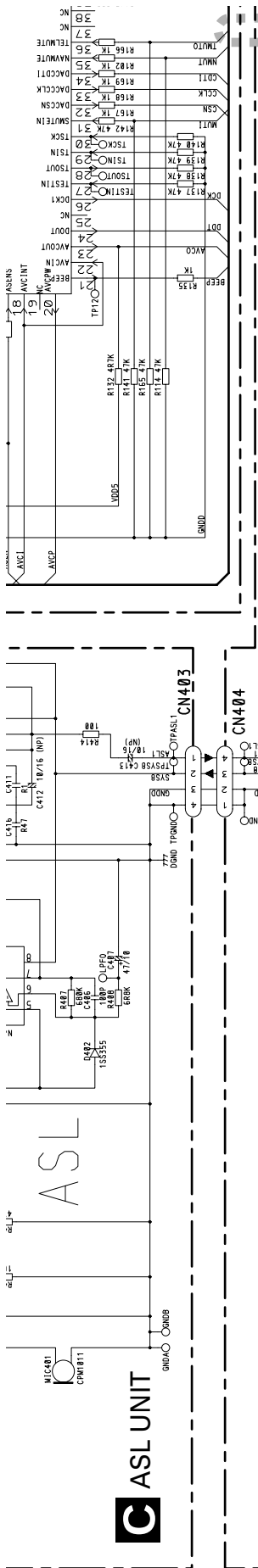
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E

F









A-a A-b

A

SIDE A

B CN905

B

C

D

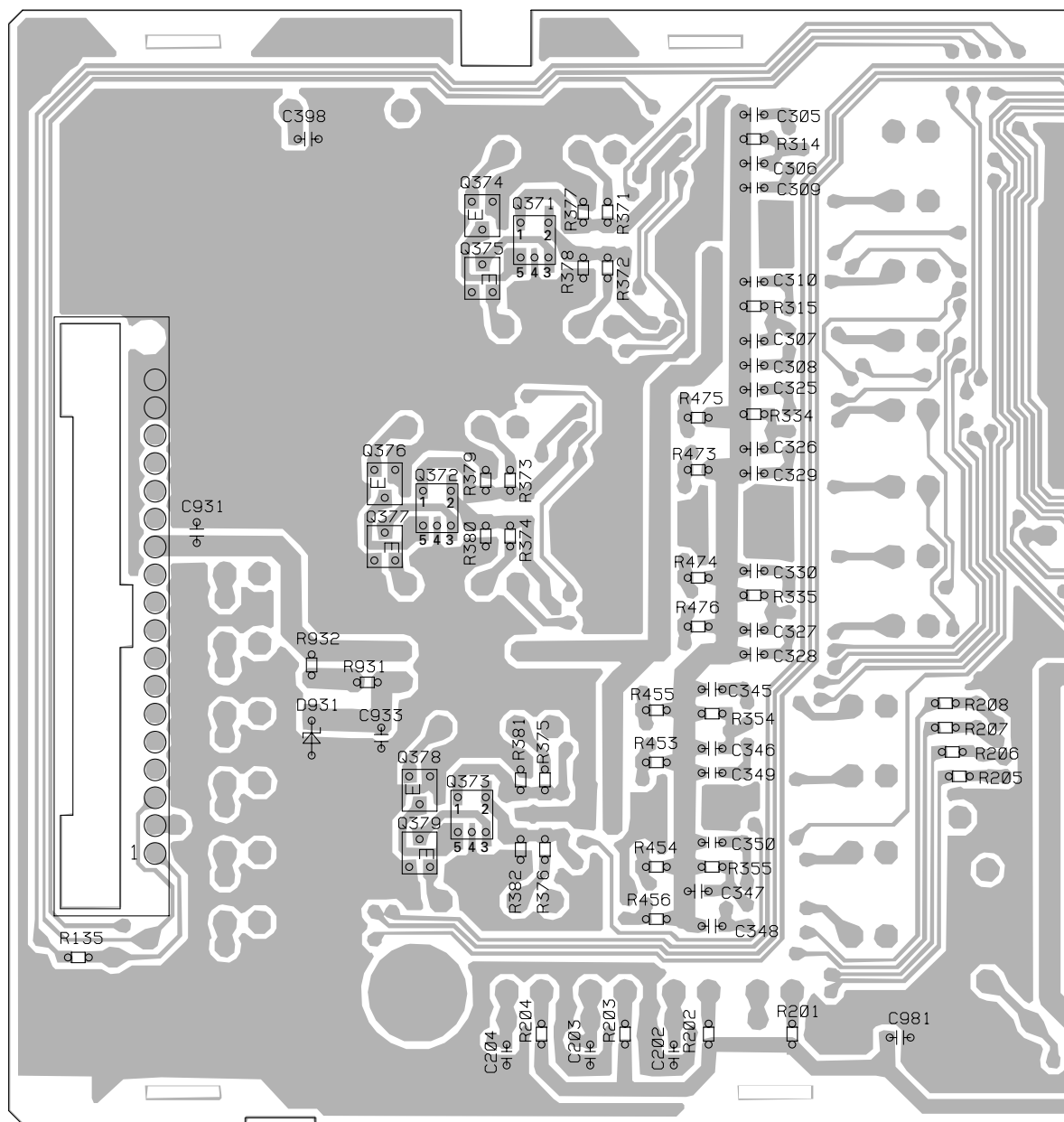
E

F

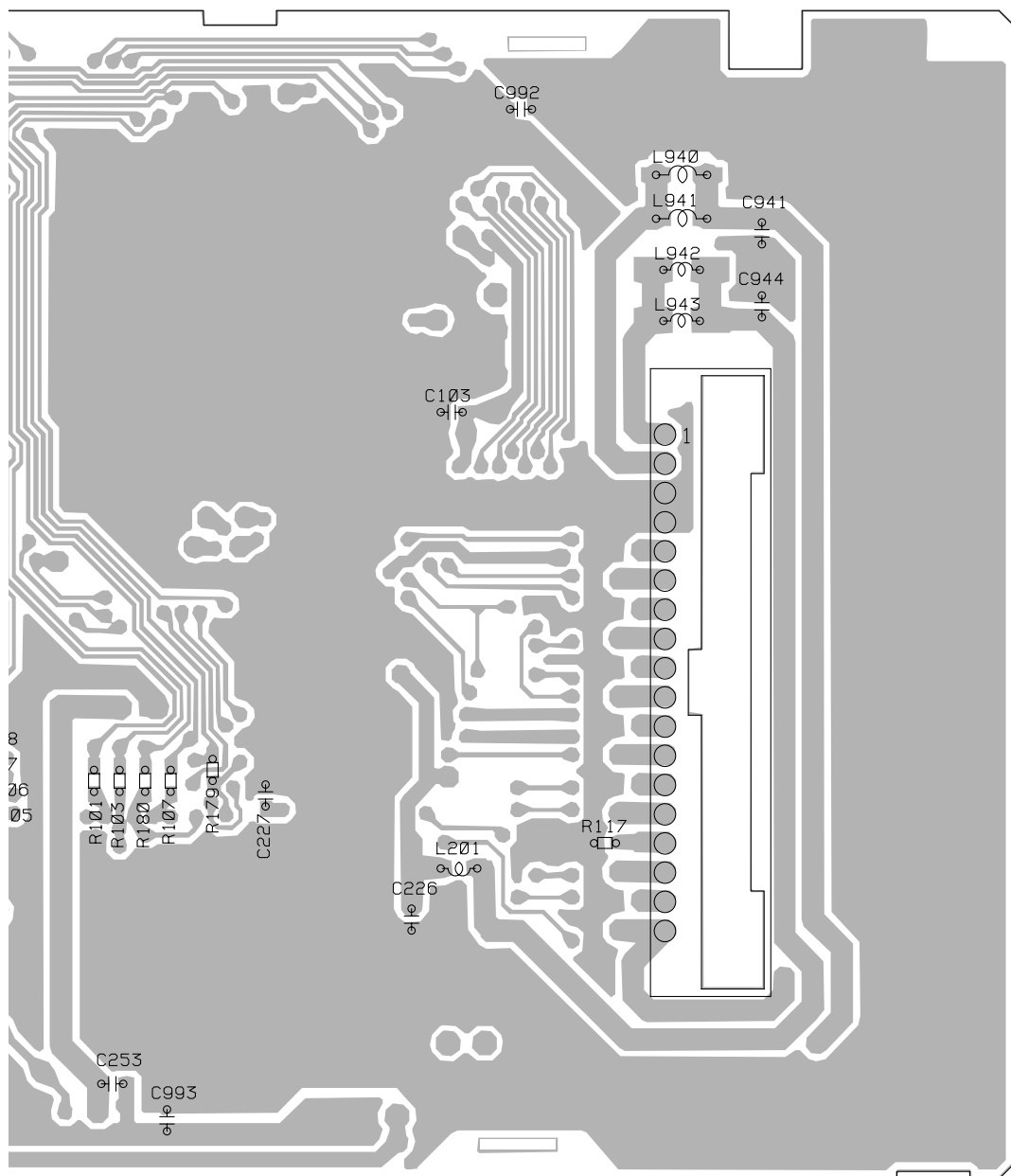
A

15

A DSP UNIT



SIDE B



IC, Q

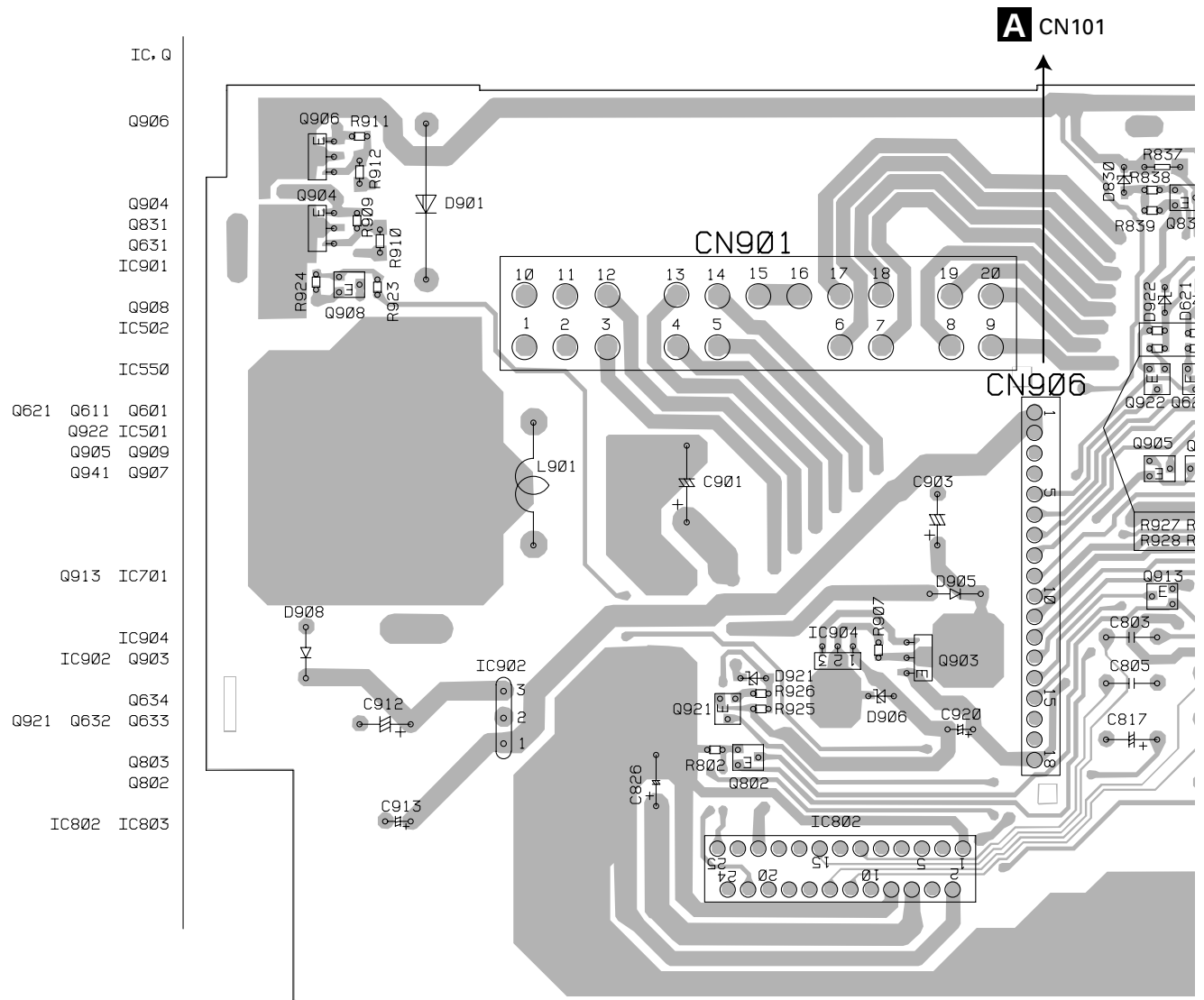
Q374
Q371
Q375

Q376 Q372
Q377

Q378 Q373
Q379

4.2 AMP UNIT

B AMP UNIT



A

B

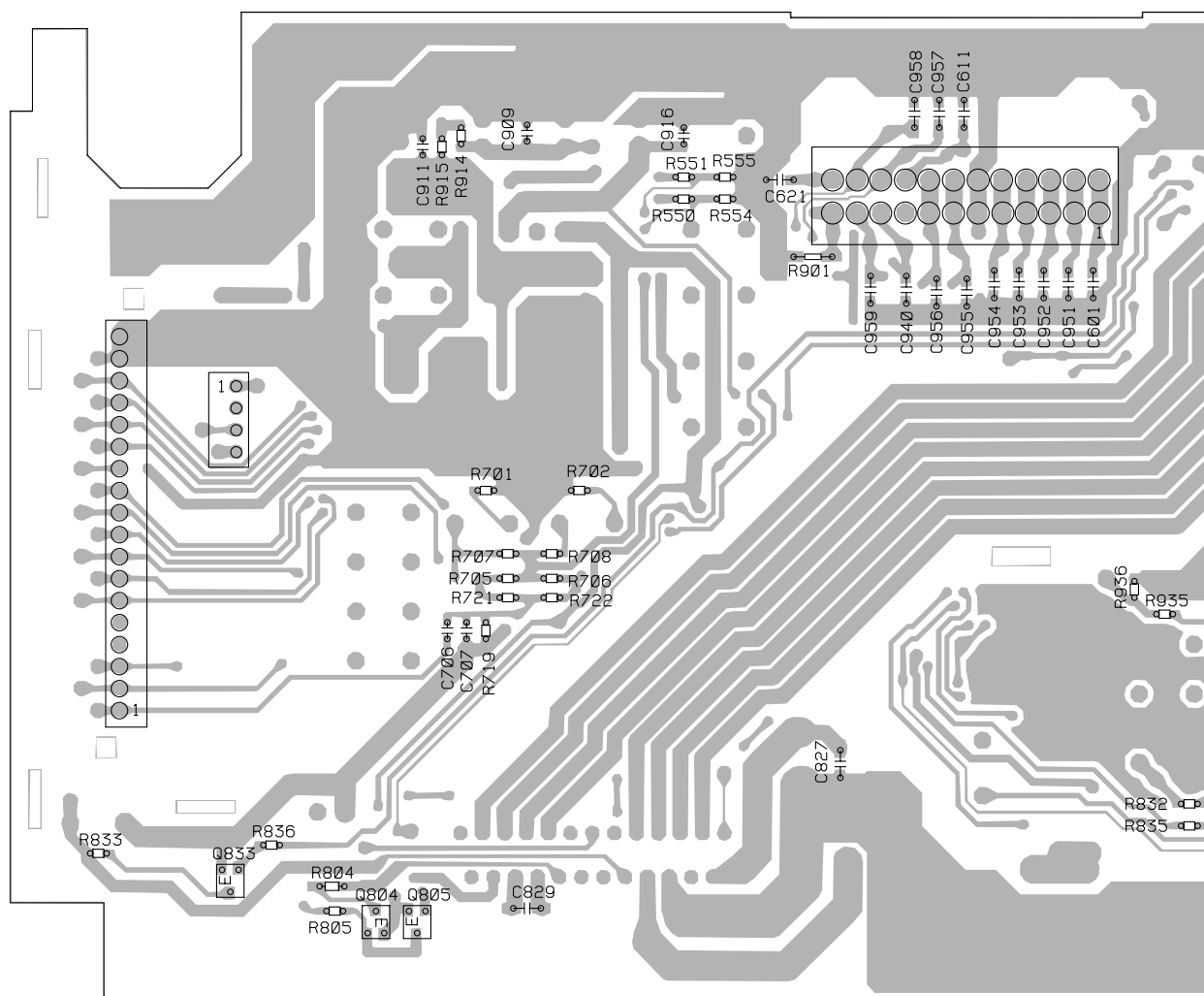
B AMP UNIT

C

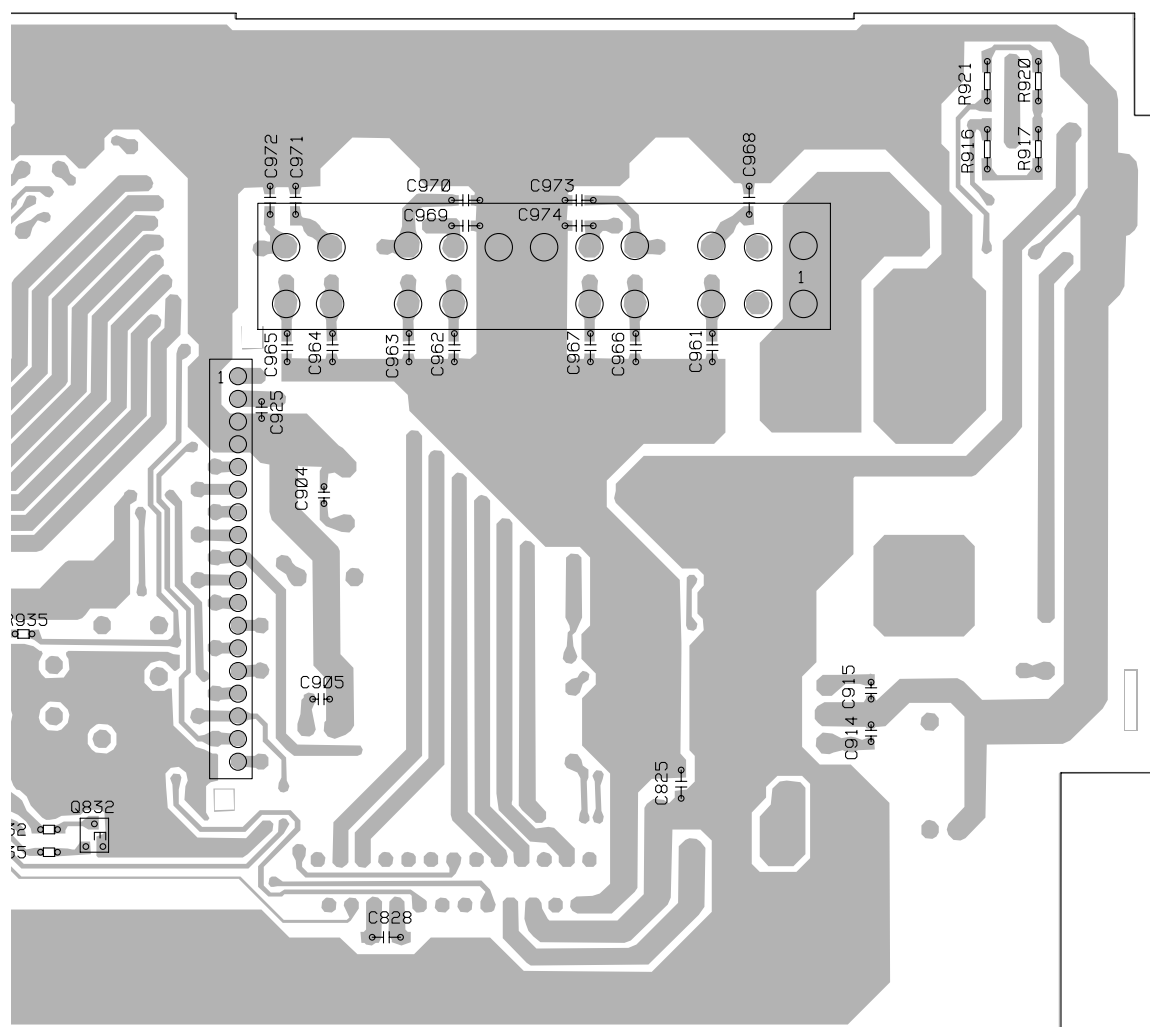
D

E

F

**B**

SIDE B



IC, Q

Q832

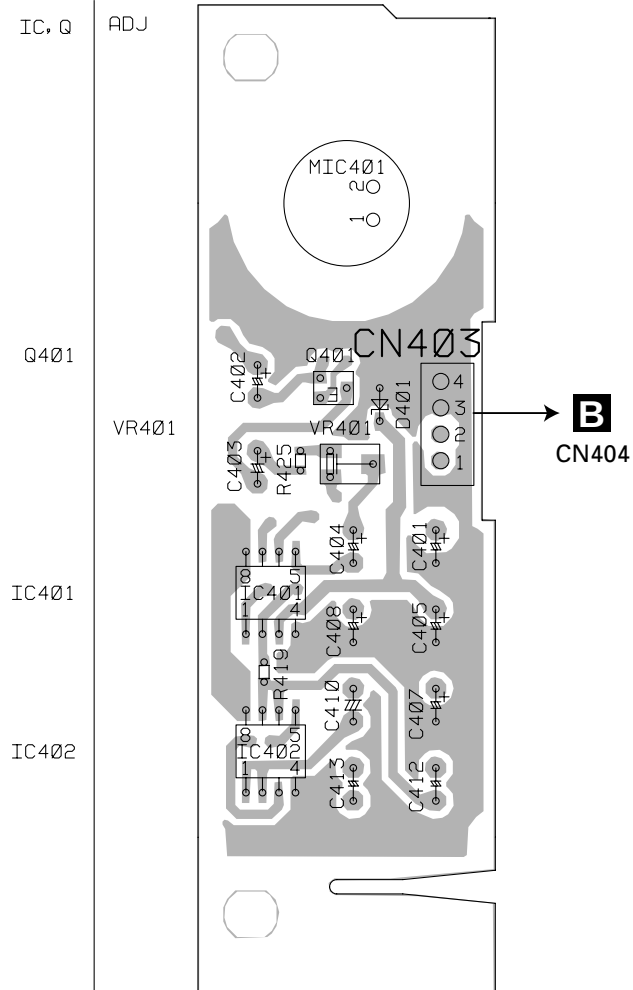
Q833

Q804 Q805

4.3 ASL UNIT

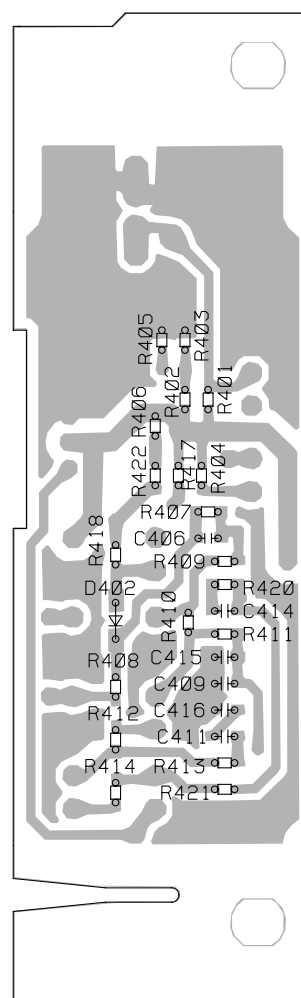
C ASL UNIT

SIDE A



C ASL UNIT

SIDE B



5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/OS○○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

====Circuit Symbol and No.==Part Name	Part No.	====Circuit Symbol and No.==Part Name	Part No.
A Unit Number : CWM8304		R 126	RS1/16S102J
Unit Name : DSP Unit		R 127	RS1/16S681J
MISCELLANEOUS		R 128	RS1/16S102J
IC 101 IC	PD5767A	R 129	RS1/16S102J
IC 111 IC	HA12187FP	R 130	RS1/16S102J
IC 121 IC	S-80835CNUA-B8U	R 131	RS1/16S102J
IC 201 IC	AK7716VTA	R 132	RS1/16S472J
IC 251 IC	AK4382AVT	R 133	RS1/16S473J
		R 134	RS1/16S473J
		R 135	RS1/16S102J
IC 271 IC	TC7WU04F	R 137	RS1/16S473J
IC 301 IC	NJM4580MD	R 138	RS1/16S473J
IC 303 IC	NJM4580MD	R 139	RS1/16S473J
IC 321 IC	NJM4580MD	R 140	RS1/16S473J
IC 323 IC	NJM4580MD	R 141	RS1/16S473J
IC 341 IC	NJM4580MD	R 142	RS1/16S473J
IC 351 IC	PM0017AM	R 145	RS1/16S0R0J
Q 101 Transistor	DTA144EU	R 146	RS1/16S102J
Q 102 Transistor	DTC144TU	R 165	RS1/16S473J
D 403 Diode	1SS355	R 166	RS1/16S102J
D 404 Diode	1SS355	R 167	RS1/16S102J
D 931 Diode	HZU4R3(B3)	R 168	RS1/16S102J
D 981 Diode	RD2R7M(B2)	R 169	RS1/16S102J
L 101 Inductor	LCTC1R0K2125	R 171	RS1/16S104J
L 201 Inductor	LCTC1R0K2125	R 173	RS1/16S473J
L 202 Inductor	LCTC1R0K2125	R 175	RS1/16S102J
L 251 Inductor	LCTC1R0K2125	R 176	RS1/16S102J
L 940 Inductor	LCTC1R0K3216	R 177	RS1/16S473J
L 941 Inductor	LCTC1R0K3216	R 178	RS1/16S102J
L 942 Inductor	LCTA2R2J2520	R 180	RS1/16S102J
L 943 Inductor	LCTA2R2J2520	R 201	RS1/16S473J
L 981 Inductor	LCTC4R7K2125	R 202	RS1/16S473J
X 101 Radiator 10.0MHz	CSS1607	R 203	RS1/16S473J
X 201 Radiator 22.579MHz	CSS1597	R 204	RS1/16S473J
		R 205	RS1/16S331J
RESISTORS		R 206	RS1/16S331J
R 101	RS1/16S102J	R 207	RS1/16S331J
R 102	RS1/16S102J	R 208	RS1/16S331J
R 103	RS1/16S102J	R 209	RS1/16S473J
R 106	RS1/16S102J	R 210	RS1/16S680J
R 107	RS1/16S102J		
R 110	RS1/16S102J	R 211	RS1/16S105J
R 111	RS1/16S102J	R 273	RS1/16S471J
R 112	RS1/16S102J	R 274	RS1/16S0R0J
R 113	RS1/16S473J	R 301	RS1/16S101J
R 114	RS1/16S473J	R 302	RS1/16S101J
R 116	RS1/16S103J	R 303	RS1/16S101J
R 117	RS1/16S473J	R 304	RS1/16S101J
R 119	RS1/16S473J	R 305	RS1/16S333J
R 120	RS1/16S104J	R 306	RS1/16S333J
R 121	RS1/16S104J	R 307	RS1/16S333J

A	====Circuit Symbol and No.==Part Name		Part No.	====Circuit Symbol and No.==Part Name		Part No.
	---	-----		---	-----	
	R	308	RS1/16S333J	R	471	RS1/16S152J
	R	309	RS1/16S332J	R	472	RS1/16S152J
	R	310	RS1/16S332J	R	473	RS1/16S332J
	R	311	RS1/16S332J	R	474	RS1/16S332J
	R	312	RS1/16S332J	R	475	RS1/16S333J
	R	313	RS1/16S223J	R	476	RS1/16S333J
	R	314	RS1/16S223J	R	477	RS1/16S102J
	R	315	RS1/16S223J	R	478	RS1/16S102J
	R	316	RS1/16S223J	R	479	RS1/16S0R0J
	R	317	RS1/16S0R0J	R	480	RS1/16S0R0J
	R	318	RS1/16S0R0J	R	931	RS1/16S271J
	R	321	RS1/16S101J	R	932	RS1/16S121J
B	R	322	RS1/16S101J	R	981	RS1/16S102J
	R	323	RS1/16S101J			
	R	324	RS1/16S101J			
	R	325	RS1/16S223J	C	101	CEJQ100M16
	R	326	RS1/16S223J	C	102	CEJQ100M16
	R	327	RS1/16S223J	C	103	CKSRYB103K50
	R	328	RS1/16S223J	C	104	CKSRYB102K50
	R	329	RS1/16S332J	C	105	CKSRYB103K50
	R	330	RS1/16S332J	C	106	CKSRYB103K50
	R	331	RS1/16S332J	C	108	CKSRYB104K25
	R	332	RS1/16S332J	C	201	CCSRCH101J50
	R	333	RS1/16S223J	C	202	CCSRCH101J50
	R	334	RS1/16S223J	C	203	CCSRCH101J50
C	R	335	RS1/16S223J	C	204	CCSRCH101J50
	R	336	RS1/16S223J	C	205	CCH1492
	R	337	RS1/16S0R0J	C	206	2.2μF/50V
	R	338	RS1/16S0R0J	C	207	2.2μF/50V
	R	341	RS1/16S101J	C	208	2.2μF/50V
	R	342	RS1/16S101J	C	209	CKSRYB152K50
	R	343	RS1/16S101J	C	210	CKSRYB152K50
	R	344	RS1/16S101J	C	211	CKSRYB104K25
	R	345	RS1/16S223J	C	212	CKSRYB104K25
	R	346	RS1/16S223J	C	213	CEHAR100M16
	R	347	RS1/16S223J	C	214	CKSRYB104K25
	R	348	RS1/16S223J	C	215	CKSRYB104K25
	R	349	RS1/16S332J	C	216	CEHAR100M16
	R	350	RS1/16S332J	C	217	CEHAR100M16
D	R	351	RS1/16S332J	C	218	CKSRYB104K25
	R	352	RS1/16S332J	C	219	CEJQ100M16
	R	353	RS1/16S223J	C	220	CKSRYB103K50
	R	354	RS1/16S223J	C	221	CKSRYB104K25
	R	355	RS1/16S223J	C	222	CKSRYB104K25
	R	356	RS1/16S223J	C	223	CKSRYB104K25
	R	357	RS1/16S0R0J	C	224	CKSRYB104K25
	R	358	RS1/16S0R0J	C	225	CEJQ100M16
	R	361	RS1/16S0R0J	C	226	CKSRYB103K50
	R	362	RS1/16S0R0J	C	227	CKSRYB104K25
	R	363	RS1/16S0R0J	C	228	CKSRYB104K25
	R	364	RS1/16S0R0J	C	251	CEJQ100M16
	R	365	RS1/16S0R0J	C	252	CKSRYB104K25
E	R	366	RS1/16S0R0J	C	253	CKSRYB104K25
	R	415	RS1/16S1003D	C	273	CKSRYB103K50
	R	416	RS1/16S1003D	C	301	CEJQNP100M16
	R	451	RS1/16S822J	C	302	CEJQNP100M16
	R	452	RS1/16S822J	C	303	CEJQNP100M16
	R	453	RS1/16S183J	C	304	CEJQNP100M16
	R	454	RS1/16S183J	C	305	CKSRYB152K50
	R	455	RS1/16S333J	C	306	CKSRYB152K50
	R	456	RS1/16S333J	C	307	CKSRYB152K50
	R	457	RS1/16S102J	C	308	CKSRYB152K50
	R	458	RS1/16S102J	C	309	CCSRCH221J50
	R	459	RS1/16S0R0J	C	310	CCSRCH221J50
	R	460	RS1/16S0R0J	C	311	CCSRCH221J50

====Circuit Symbol and No.==Part Name

Part No.

C 312
C 313
C 321
C 322
C 323

CCSRCH221J50
CKSRYB103K50
CEJQNP100M16
CEJQNP100M16
CEJQNP100M16

C 324
C 325
C 326
C 327
C 328

CEJQNP100M16
CKSRYB152K50
CKSRYB152K50
CKSRYB152K50
CKSRYB152K50

C 329
C 330
C 331
C 332
C 333

CCSRCH221J50
CCSRCH221J50
CCSRCH221J50
CCSRCH221J50
CKSRYB103K50

C 341
C 342
C 343
C 344
C 345

10μF/16V
10μF/16V

CEJQNP100M16
CEJQNP100M16
CCH1493
CCH1493
CKSRYB152K50

C 346
C 347
C 348
C 349
C 350

CKSRYB152K50
CKSRYB152K50
CKSRYB152K50
CCSRCH221J50
CCSRCH221J50

C 351
C 352
C 353
C 383
C 384

CCSRCH221J50
CCSRCH221J50
CKSRYB103K50
CEJQ100M16
CKSRYB104K25

C 385
C 386
C 387
C 388
C 389

CKSYB105K16
CKSYB105K16
CKSYB105K16
CKSYB105K16
CKSYB105K16

C 390
C 391
C 392
C 393
C 394

CKSYB105K16
CEJQNP3R3M25
CEJQNP3R3M25
CEJQNP3R3M25
CEJQNP3R3M25

C 395
C 396
C 397
C 398
C 451

CEJQNP3R3M25
CEJQNP3R3M25
CEJQ100M16
CKSRYB104K25
CKSRYB474K10

C 452
C 453
C 454
C 455
C 456

CKSRYB474K10
CKSRYB474K10
CKSRYB474K10
CKSRYB472K50
CKSRYB472K50

C 457
C 471
C 472
C 473
C 474

CKSRYB103K50
CKSRYB474K10
CKSRYB474K10
CKSRYB474K10
CKSRYB474K10

C 475
C 476
C 477
C 931
C 932

CKSRYB472K50
CKSRYB472K50
CKSRYB103K50
CKSRYB103K50
CEJQ101M10

C 933
C 941
C 942
C 943
C 944

CKSRYB102K50
CKSRYB103K50
CKSRYB103K50
CKSRYB103K50
CKSRYB103K50

====Circuit Symbol and No.==Part Name

Part No.

C 981
C 982
C 983
C 984
C 991

CKSRYB104K25
CEHAR101M6R3
CEHAR101M6R3
CEHAR101M6R3
CKSRYB103K50

C Unit Number : CWM8305
Unit Name : ASL Unit

MISCELLANEOUS

IC 401 IC
IC 402 IC
Q 401 Transistor
D 401 Diode
D 402 Diode

NJM4580MD
NJM4580MD
2SC4081
HZU4R3(B3)
1SS355

VR 401 Semi-fixed Resistor 3.3kΩ(OB)
MIC 401 Microphone

CCP1393
CPM1011

RESISTORS

R 401
R 402
R 403
R 404
R 405

RS1/16S222J
RS1/16S683J
RS1/16S103J
RS1/16S472J
RS1/16S471J

R 406
R 407
R 408
R 409
R 410

RS1/16S271J
RS1/16S684J
RS1/16S682J
RS1/16S472J
RS1/16S472J

R 411
R 412
R 413
R 414
R 417

RS1/16S473J
RS1/16S153J
RS1/16S153J
RS1/16S101J
RS1/16S1800D

R 418
R 419
R 420
R 422
R 425

RS1/16S562J
RS1/16S1002D
RS1/16S2002D
RS1/16S121J
RS1/16S472J

CAPACITORS

C 401
C 402
C 403
C 404
C 405

CEJQ470M10
CEJQ470M10
CEALR68M50
CEJQ100M50
CEJQ470M10

C 406
C 407
C 408
C 409
C 410

CCSRCH101J50
CEJQ470M10
CEJQ100M50
CKSRYB473K25
CEJQNP220M10

C 411
C 412
C 413
C 414
C 415

CKSRYB104K16
CEJQNP100M16
CEJQNP100M16
CKSRYB103K50
CKSRYB223K50

C 416

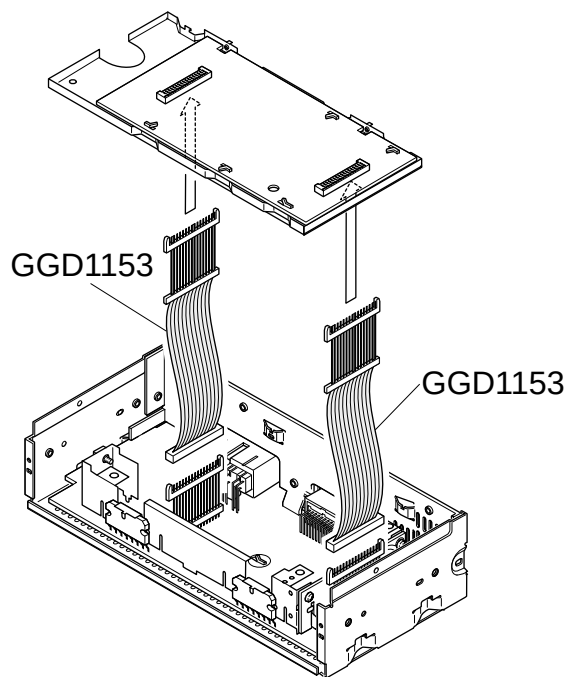
CKSRYB474K10

	====Circuit Symbol and No.====Part Name			Part No.		====Circuit Symbol and No.====Part Name			Part No.
B	B Unit Number : CWM8303 Unit Name : Amp Unit				R	520			RS1/16S562J
					R	521			RS1/16S0R0J
					R	522			RS1/16S0R0J
					R	523			RS1/16S0R0J
					R	524			RS1/16S0R0J
	IC	501	IC						
	IC	502	IC	NJM4580MD	R	525			RS1/16S392J
	IC	701	IC	NJM4580MD	R	526			RS1/16S392J
	IC	802	IC	PAL006A	R	527			RS1/16S392J
B	IC	803	IC	TDA7384	R	528			RS1/16S392J
					R	601			RS1/16S912J
	IC	901	IC	NJM2930F08K	R	602			RS1/16S472J
	IC	902	IC	BA178M05T	R	611			RS1/16S912J
	IC	904	IC	S-812C56AUA-C3K	R	612			RS1/16S472J
	Q	601	Transistor	2SA1576	R	621			RS1/16S912J
	Q	611	Transistor	2SA1576	R	622			RS1/16S472J
	Q	621	Transistor	2SA1576					
B	Q	631	Transistor	2SC4081	R	631			RS1/16S104J
	Q	632	Transistor	2SD1757K	R	632			RS1/16S473J
	Q	633	Transistor	DTC114EU	R	633			RS1/16S222J
	Q	804	Transistor	2SC4081	R	634			RS1/16S103J
					R	635			RS1/16S103J
	Q	805	Transistor	DTC144TU					
	Q	831	Transistor	2SC4081	R	636			RS1/16S333J
	Q	832	Transistor	2SC4081	R	637			RS1/16S272J
	Q	903	Transistor	2SD1767	R	638			RS1/16S333J
B	Q	904	Transistor	2SB1260	R	639			RS1/16S0R0J
					R	703			RS1/16S682J
	Q	905	Transistor	DTA114EU					
	Q	906	Transistor	2SB1260	R	704			RS1/16S682J
	Q	907	Transistor	2SA1587	R	705			RS1/16S303J
	Q	908	Transistor	2SC4081	R	706			RS1/16S303J
	Q	909	Transistor	DTC144TU	R	707			RS1/16S223J
					R	708			RS1/16S223J
	B								
Q		921	Transistor	2SC4081					
Q		922	Transistor	DTC144TU	R	709			RS1/16S123J
Q		941	Transistor	2SA1576	R	710			RS1/16S123J
D		601	Diode	1SS355	R	719			RS1/16S221J
D		611	Diode	1SS355	R	721			RS1/16S474J
					R	722			RS1/16S474J
D		621	Diode	1SS355					
D		631	Diode	HZU8R2(B3)	R	725			RS1/16S0R0J
D	D	830	Diode	UDZS7R5(B)	R	726			RS1/16S0R0J
	D	901	Diode	RM4LFJ10	R	731			RS1/16S392J
	D	902	Diode	1SS355	R	732			RS1/16S392J
					R	733			RS1/16S182J
	D	905	Diode	MPG06G-6415G50					
	D	906	Diode	UDZS16(B)	R	734			RS1/16S182J
	D	907	Diode	HZU4R3(B3)	R	740	0Ω		CCN1139
	D	908	Diode	MPG06G-6415G50	R	741	0Ω		CCN1139
	D	910	Diode	1SS355	R	751			RS1/16S182J
B					R	752			RS1/16S182J
	D	921	Diode	HZU8R2(B1)					
	D	922	Diode	HZU8R2(B2)	R	753			RS1/16S682J
	D	941	Diode	1SS355	R	754			RS1/16S682J
	D	951	Diode	UDZS18(B)	R	804			RS1/10S681J
	D	952	Diode	UDZS18(B)	R	805			RS1/16S223J
					R	832			RS1/16S271J
	L	901	Choke Coil 360μH	CTH1268					
E	RESISTORS				R	835			RS1/16S472J
					R	837			RS1/8S272J
					R	838			RS1/16S182J
					R	839			RS1/16S183J
	R	501		RS1/16S562J		R	901		RS1/8S472J
	R	502		RS1/16S562J					
	R	503		RS1/16S562J					
	R	504		RS1/16S562J	R	902			RS1/8S222J
	R	505		RS1/16S103J	R	907			RS1/16S182J
					R	908			RS1/16S473J
B	R	506		RS1/16S103J		R	909		RS1/16S103J
	R	507		RS1/16S103J	R	910			RS1/10S561J
	R	508		RS1/16S103J					
	R	509		RS1/16S562J	R	911			RS1/16S103J
	R	510		RS1/16S562J	R	912			RS1/10S331J
				RS1/16S562J	R	914			RS1/16S121J
					R	915			RS1/16S101J
	R	511		RS1/16S562J	R	916			RS1/8S121J
	R	512		RS1/16S562J					
	R	517		RS1/16S562J					
F	R	518		RS1/16S562J					
	R	519		RS1/16S562J					

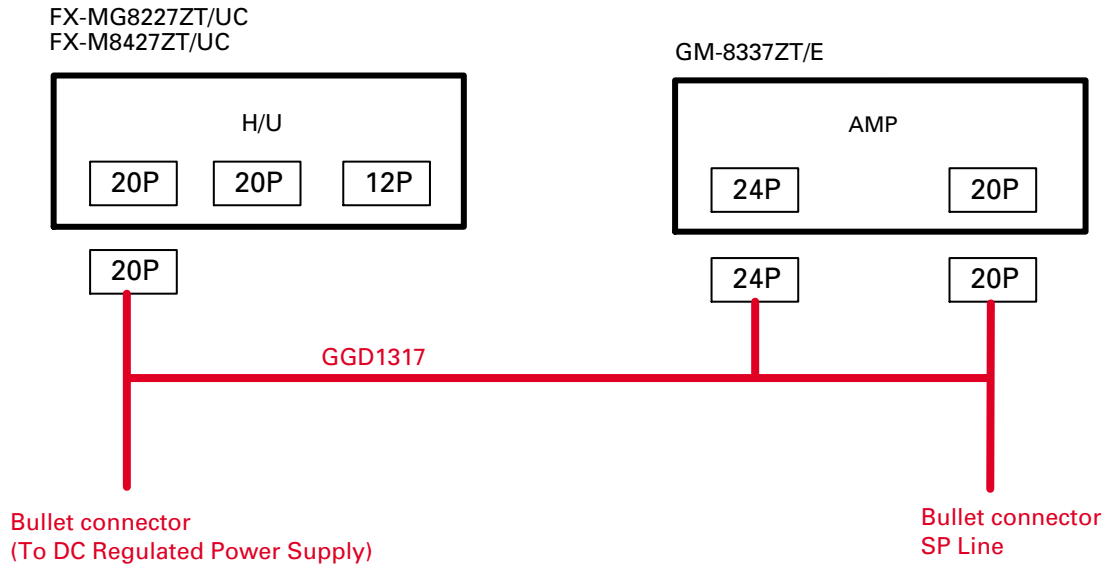
====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.	
R 917	RS1/8S151J	C 909	CKSRYB473K25	A
R 920	RS1/8S121J	C 910	CEAT221M10	
R 921	RS1/8S151J	C 911	CKSRYB473K25	
R 923	RS1/16S362J	C 912	CEHAT471M25	
R 924	RS1/16S473J	C 913	CCH1282	
			100μF/10V	
R 925	RS1/16S104J	C 914	CKSRYB473K25	
R 926	RS1/16S473J	C 915	CKSRYB103K50	
R 927	RS1/16S104J	C 916	CKSRYB103K50	
R 928	RS1/16S0R0J	C 917	CKSQYB103K50	
R 935	RS1/16S183J	C 918	CKSQYB224K25	
R 936	RS1/16S103J	C 920	CEHAT221M10	
R 939	RS1/16S432J	C 925	CKSRYB104K25	
R 940	RS1/16S512J	C 928	CEAT3R3M50	B
R 941	RS1/16S912J	C 940	CKSQYB473K25	
R 942	RS1/16S472J	C 951	CCSQCH221J50	
R 951	RS1/4S101J	C 952	CCSQCH221J50	
R 952	RS1/4S101J	C 953	CCSQCH221J50	
		C 954	CCSQCH221J50	
		C 955	CCSQCH221J50	
		C 956	CCSQCH221J50	
CAPACITORS				
C 501	CEAT4R7M50			
C 502	CEAT4R7M50			
C 503	CEAT4R7M50	C 957	CCSQCH221J50	
C 504	CEAT4R7M50	C 958	CCSQCH221J50	
C 505	CCSRCH101J50	C 959	CKSQYB103K50	
		C 961	CKSQYB332K50	
		C 962	CKSQYB332K50	
C 506	CCSRCH101J50			
C 507	CCSRCH101J50	C 963	CKSQYB332K50	C
C 508	CCSRCH101J50	C 964	CKSQYB332K50	
C 509	CKSRYB473K25	C 965	CKSQYB332K50	
C 510	CKSRYB473K25	C 966	CKSQYB332K50	
		C 967	CKSQYB332K50	
C 601	CKSQYB473K25			
C 611	CKSQYB473K25	C 968	CKSQYB332K50	
C 621	CKSQYB473K25	C 969	CKSQYB332K50	
C 631	CEAT4R7M50	C 970	CKSQYB332K50	
C 701	CCSRCH101J50	C 971	CKSQYB332K50	
		C 972	CKSQYB332K50	
C 702	CCSRCH101J50			
C 706	CKSRYB473K25	C 973	CKSQYB332K50	
C 707	CKSRYB224K10	C 974	CKSQYB332K50	
C 708	CKSRYB473K25			
C 803	CFTNA224J50			D
C 804	CFTNA224J50			
C 805	CFTNA224J50			
C 806	CFTNA224J50			
C 807	CFTNA224J50			
C 808	CFTNA224J50			
C 811	CFTNA224J50			
C 812	CFTNA224J50			
C 814	CFTNA105J50			
C 815	CFTNA105J50			
C 817	CEAT100M50			
C 818	CEHAT100M50			
C 824	CEHAT221M25			
C 825	CKSQYB104K25			
C 826	CEHAT221M25			E
C 827	CKSQYB104K25			
C 828	CKSQYB104K25			
C 829	CKSQYB104K25			
C 901	CCH1390			
C 902	CEAT1R0M50			
C 903	CEAT471M25			
C 904	CKSRYB103K50			
C 905	CKSRYB103K50			
C 906	CEHAT1R0M50			
C 907	CCH1282			
C 908	CCH1282			F
	100μF/10V			
	100μF/10V			

6. ADJUSTMENT

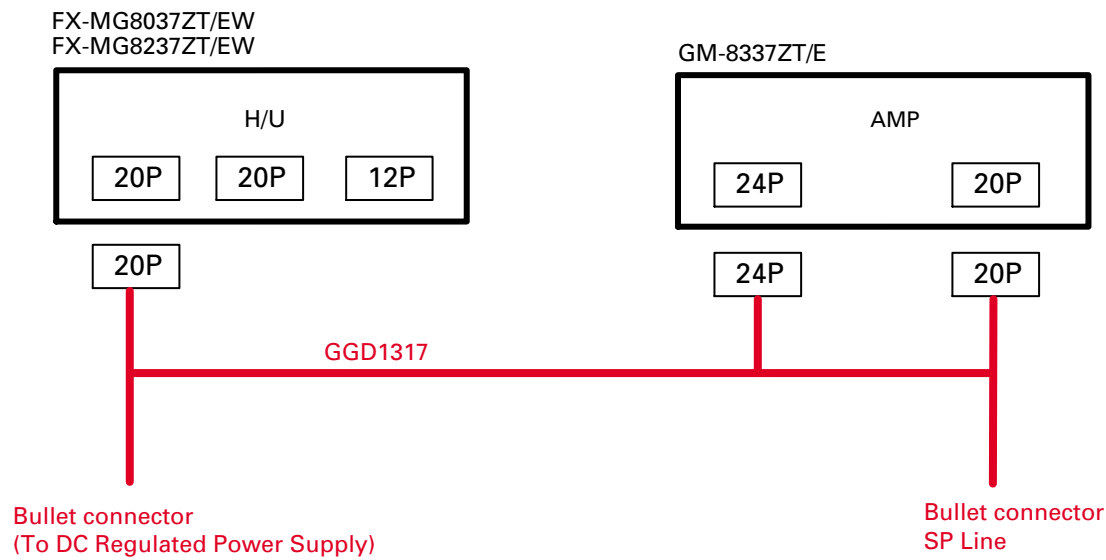
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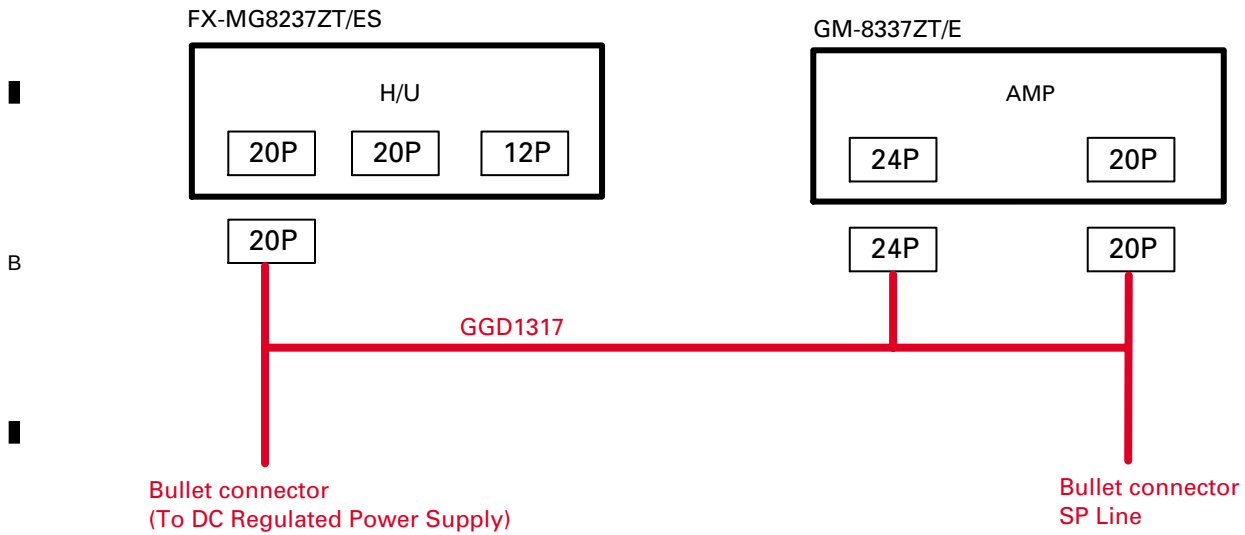
● STANDARD SYSTEM



● STANDARD SYSTEM

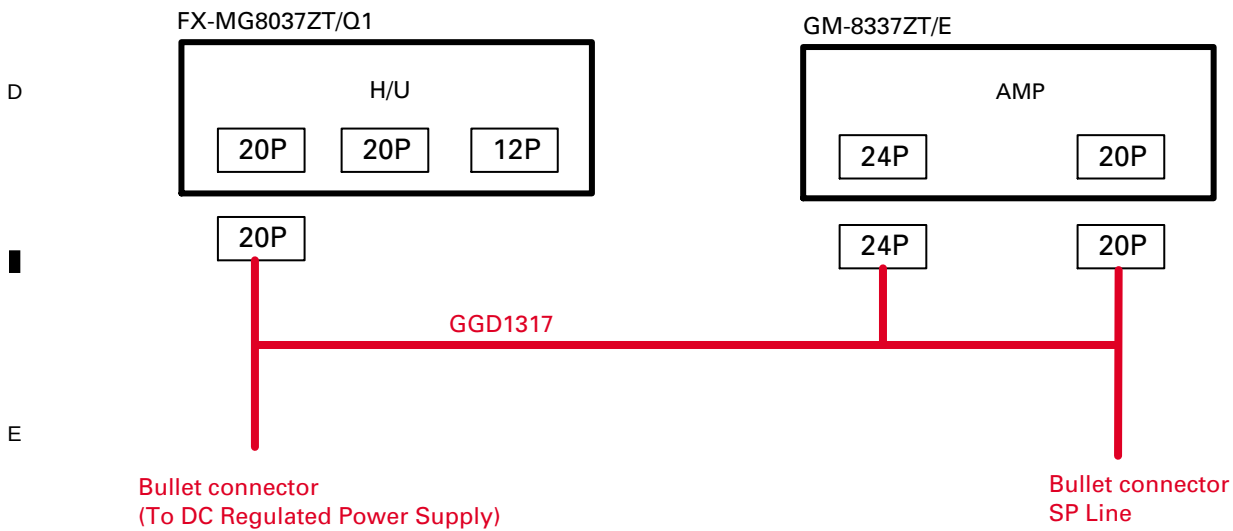


A ● STANDARD SYSTEM



C

● STANDARD SYSTEM



E

F

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

● Removing the two Brackets (Fig.1)

- ➡ 1 Remove the four screws and then remove the two Brackets.

● Removing the Case (Fig.1)

- ➡ 2 Remove the two screws and then remove the Case.

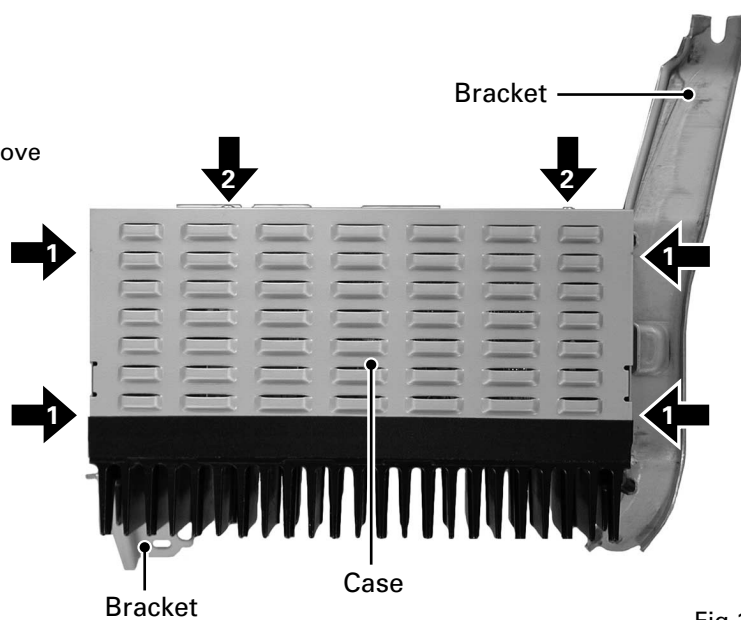


Fig.1

● Removing the DSP Unit (Fig.2)

- ➡ 1 Remove the solder and then straighten the tab at location indicated.
- ➡ 2 Straighten the tabs at five locations indicated.
- ➡ 3 Remove the four screws and then remove the DSP Unit and the Shield together.

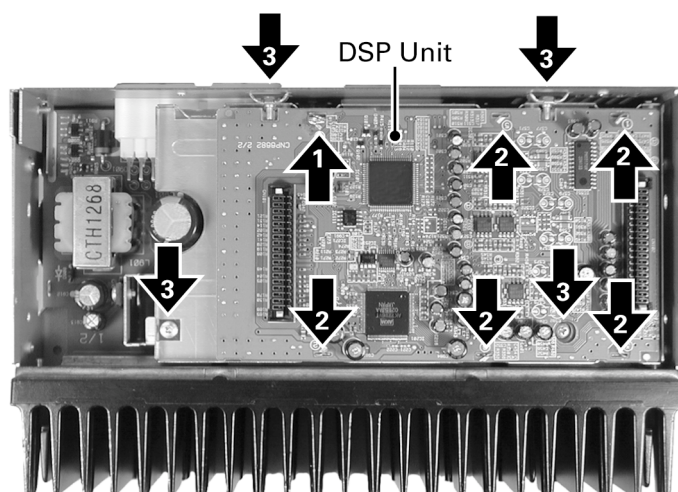


Fig.2

< Cautions and Techniques for removing the DSP Unit >

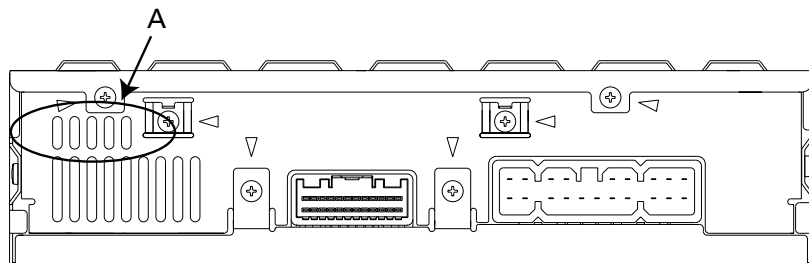
In addition to the explanation on the previous page, there are some cautions and techniques for removing the DSP Unit.

① Use a pair of tweezers as a lever.

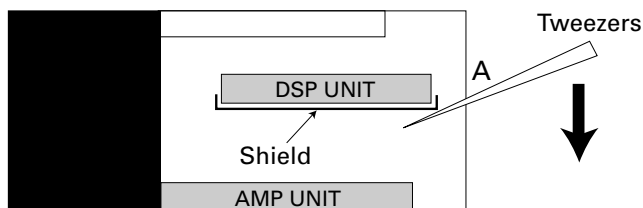
Insert the tips into the upper side-slits (A in Rear View) and get the bottom side of the Shield.

Push the tweezers down in the direction indicated by an arrow in Side View.

● Rear View



● Side View



② Now one of the 18-pin connectors gets disconnected from the DSP Unit by doing ① so that it becomes easier to detach the DSP Unit.

Lift and remove the DSP Unit and the Shield together.

Be careful not to give any stress to the 18-pin connectors on both sides when removing the DSP Unit and the Shield.

● **Removing the Amp Unit (Fig.3)**

- 1** Remove the six screws and then remove the Heat Sink.
- 2** Straighten the tab at location indicated.
- 3** Remove the four screws and then remove the Amp Unit.

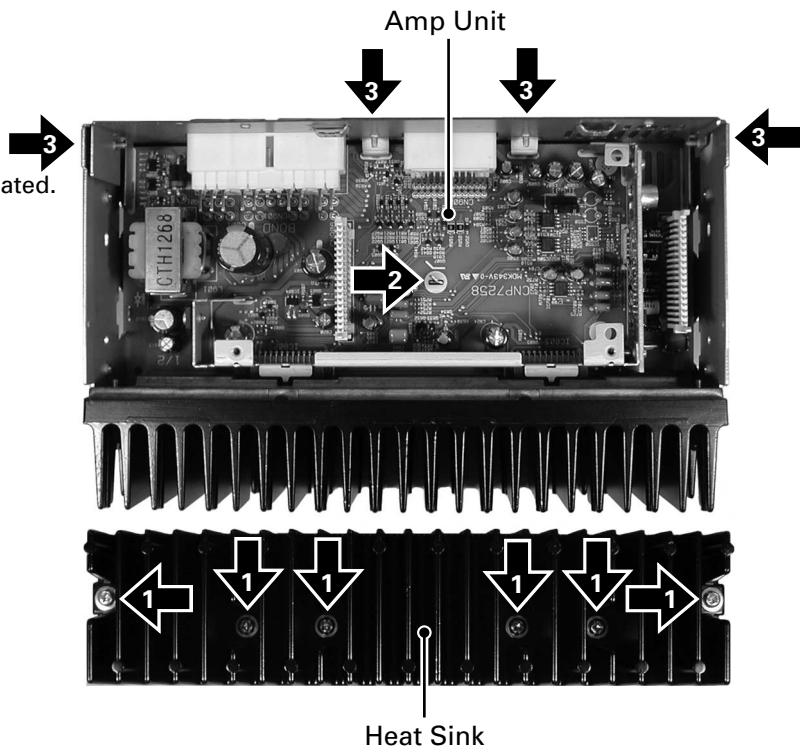
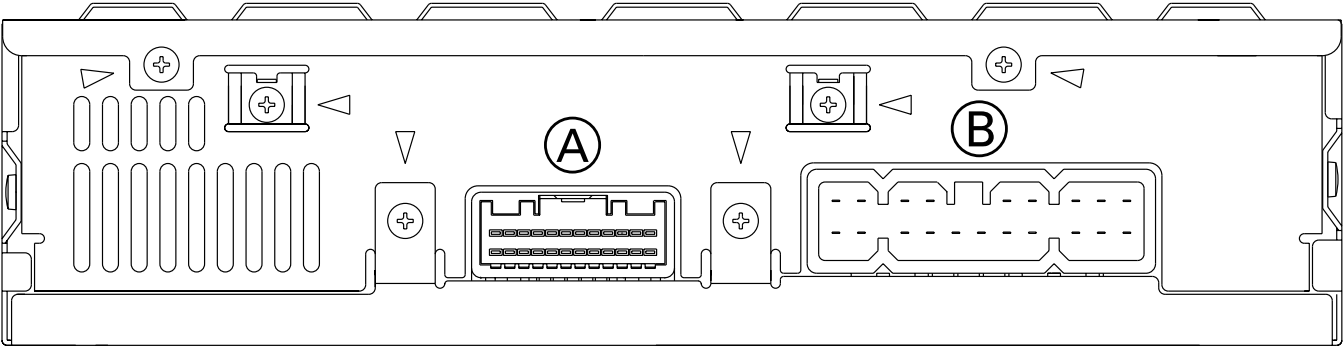


Fig.3

A

7.1.2 CONNECTOR FUNCTION DESCRIPTION

B



C

A

ACC	SPD	LRHD		TX+	TX-	SLD	R+	R-	L+	L-	MUTE
TMUT			N-MU	(TX+)	(TX-)	(SLD)	(R+)	(R-)	(L+)	(L-)	(MUTE)

D

B

FR+	FL+	RR+	RL+			WF1+	WF2+	(CTR+)		+B
FR-	FL-	RR-	RL-	GND	GND2	WF1-	WF2-	(CTR-)		+B2

E

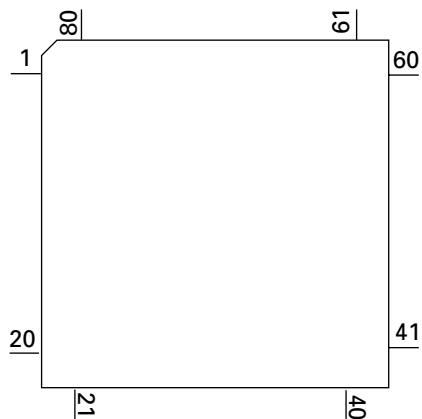
F

7.2 IC

● Pin Functions (PD5767A)

Pin No.	Pin Name	I/O	Function and Operation
1	DCK2	O	DSP I/F serial clock output 2
2	NC		Not used
3	VCS	O	Electronic volume strobe output
4	VDT	O	Electronic volume serial data output
5	VCK	O	Electronic volume serial clock output
6	CNVSS	I	Connect to GND
7	MODEL0	I	R handle / L handle select input
8	NC		Not used
9	RESET	I	Reset input
10	XOUT	O	System clock output
11	VSS		GND
12	XIN	I	System clock input (10MHz)
13	VCC		Power supply (+5V)
14	NMI	I	Connect to VCC
15	SPEED	I	Speed sensor pulse input
16	BSENS	I	Backup sense input
17	ASENS	I	ACC sense input
18	AVCINT	I	AVC-LAN data input
19	NC		Not used
20	AVCPW	O	AVC-LAN driver power output
21	BEEP	O	Beep pulse output
22	AVCIN	I	AVC-LAN data input
23	AVCOUT	O	AVC-LAN data output
24	DOUT	O	DSP I/F serial data output
25	NC		Not used
26	DCK1	O	DSP I/F serial clock output 1
27	TESTIN	I	Test program input
28	TSOUT	O	Test serial data output
29	TSIN	I	Test serial data input
30	TSCK	I	Test serial clock input
31	SMUTEIN	I	System mute input
32	DACCSN	O	CSN control for DAC soft mute
33	DACCCLK	O	CCLK control for DAC soft mute
34	DACCDTI	O	CDTI control for DAC soft mute
35	NAVMUTE	I	NAVI mute input
36	TELMUTE	I	TEL mute input
37,38	NC		Not used
39	ROMDT	I/O	ROM correction data output
40	MUTE	O	System mute output
41-60	NC		Not used
61	SMUTE	O	DSP soft mute output
62	NC		Not used
63	DIRST	O	DSP reset output
64,65	NC		Not used
66	SYSPW	O	System power output
67	DRST	O	DSP reset output (DSP)
68	DSPEER	I	DSP error detect input
69	DCRST	O	DSP reset output (CODEC)
70	DOU TL	O	DSP serial data output line (LOW)
71	DRQ	O	DSP request output
72	DSRDY	I	DSP data ready input
73	DSRDY	I	DSP write in ready input
74	ASLIN	I	ASL noise input
75	AVSS		GND for microcomputer AD
76	NC		Not used
77	VREF	I	Reference input for microcomputer AD
78	AVCC		Power supply for microcomputer AD
79	DIN	I	DSP I/F serial data input
80	NC		Not used

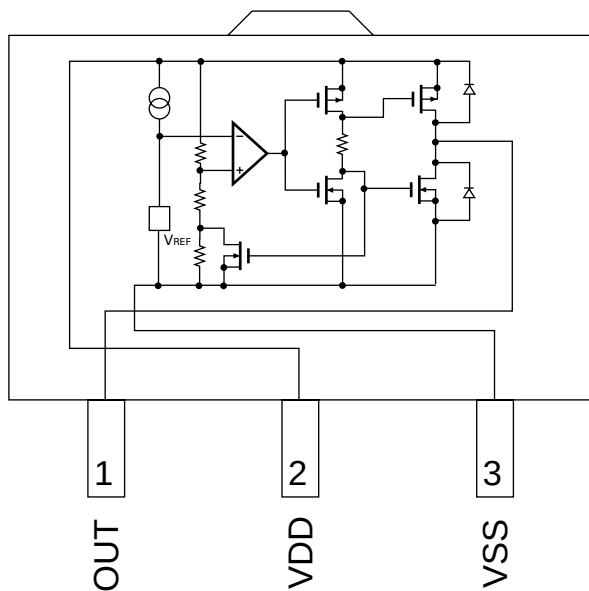
A * PD5767A



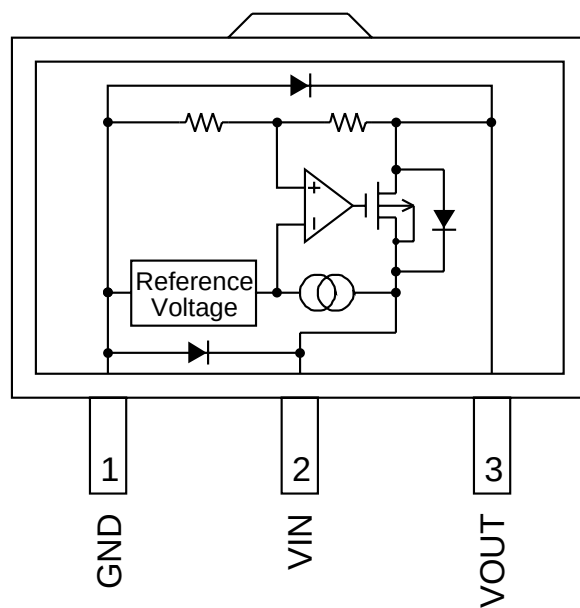
IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

B

S-80835CNUA-B8U



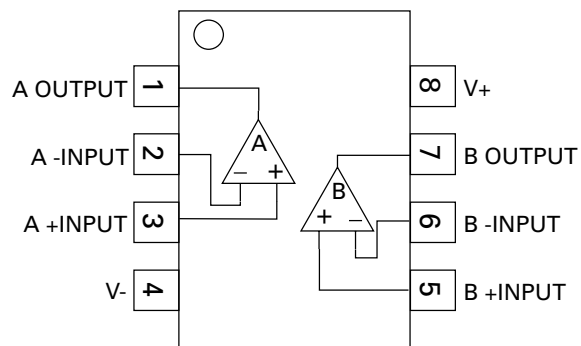
S-812C56AUA-C3K



C

D

NJM4580MD



E

F

● Pin Functions (AK7716VTA)

Pin No.	Pin Name	I/O	Function and Operation
1	TEST1	I	Test pin
2	INIT_RESET	I	Reset pin
3	CODEC_RESET	I	Reset pin
4	DSP_RESET	I	Reset pin
5	SMUTE	I	Soft mute pin
6	DVB		Power supply pin (5V)
7	SDINA	I	DSP serial data input pin
8	SDOUTA	O	ADC serial data output pin
9	SDOUTD1	O	DSP serial data output pin
10	SDIND1	I	DAC1 serial data input pin
11	SDIND2	I	DAC2 serial data input pin
12	SDOUTD2	O	DSP serial data output pin
13	SDOUT1	O	DSP serial data output pin
14	SDOUT2	O	DSP serial data output pin
15	SDIN1	I	DSP serial data input pin
16	SDIN2	I	DSP serial data input pin
17	LRCLK	I/O	L / R channel select pin
18	BITCLK	I/O	Serial bit clock pin
19	CLKO	O	Clock output pin
20	CTRL	I	Clock output control pin
21	DVDD		Digital : Power supply pin (5V)
22	DVSS		Digital : GND pin (0V)
23	OPCL	I	ADC, DAC connection select pin
24	XTI	I	Master clock input pin
25	XTO	O	Crystal oscillator output pin
26	SMODE	I	Slave / Master mode select pin
27	EESEL	I	EEPROM select pin
28	JX	I	Outside condition pin
29	RQ	I	Request pin for microcomputer interface
30	SCLK	I	Serial data clock pin for microcomputer interface
31	SI	I	Serial data input / Serial data output control pin for microcomputer interface
32	SO	O	Serial data output pin for microcomputer interface
33	RDY	O	Data write in ready output pin for microcomputer interface
34	DRDY	O	Output data ready for microcomputer interface
35	EEST	O	EEPROM write in status pin
36	DVSS		Digital : GND pin (0V)
37	DVDD		Digital : Power supply pin (5V)
38	CAS	O	Option DRAM : CAS pin
39	RAS	O	Option DRAM : RAS pin
40	WE	O	Outside SRAM / DRAM : Write enable pin
41-48	A0-7	O	Outside RAM : Address output pin
49	DVSS		Digital : GND pin (0V)
50	DVDD		Digital : Power supply pin (5V)
51-59	A8-16	O	Outside RAM : Address output pin
60	OE	O	Outside RAM : Output enable pin
61-68	IO0-7	I/O	Outside RAM : Data input / output pin
69	DVSS		Digital : GND pin (0V)
70	DVDD		Digital : Power supply pin (5V)
71	DVB		Power supply pin (5V)
72	EEDO	I	EEPROM serial data input pin
73	EEDI	O	EEPROM serial data output pin
74	EESK	O	EEPROM serial clock output pin
75	AVSS		GND for microcomputer AD
76	AOUTR2-	O	DAC2 Rch analogue inverting output pin
77	AOUTR2+	O	DAC2 Rch analogue non-inverting output pin
78	NC		Not used
79	AOUTL2-	O	DAC2 Lch analogue inverting output pin
80	AOUTL2+	O	DAC2 Lch analogue non-inverting output pin

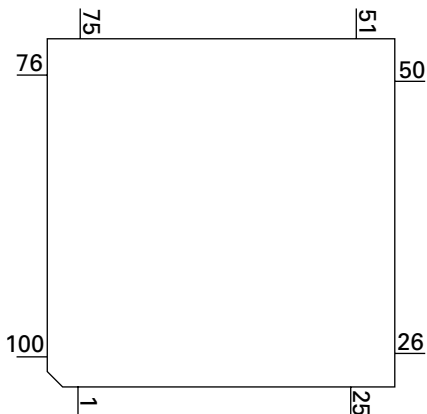
A

Pin No.	Pin Name	I/O	Function and Operation
81	NC		Not used
82	AOUTR1-	O	DAC1 Rch analogue inverting output pin
83	AOUTR1+	O	DAC1 Rch analogue non-inverting output pin
84	NC		Not used
85	AOUTL1-	O	DAC1 Lch analogue inverting output pin
86	AOUTL1+	O	DAC1 Lch analogue non-inverting output pin
87	NC		Not used
88	VRDAL	I	DAC standard voltage input pin
89	AVSS		Analogue : GND pin (0V)
90	AVDD		Analogue : Power supply pin (5V)
91	VRDAH	I	DAC standard voltage input pin
92	VCOM	O	Analogue common voltage pin
93	VRADL	I	ADC standard voltage input pin
94	AVSS		Analogue : GND pin (0V)
95	AVDD		Analogue : Power supply pin (5V)
96	VRADH	I	ADC standard voltage input pin
97	AINR-	I	ADC Rch analogue inverting input pin
98	AINR+	I	ADC Rch analogue non-inverting input pin
99	AINL-	I	ADC Lch analogue inverting input pin
100	AINL+	I	ADC Lch analogue non-inverting input pin

B

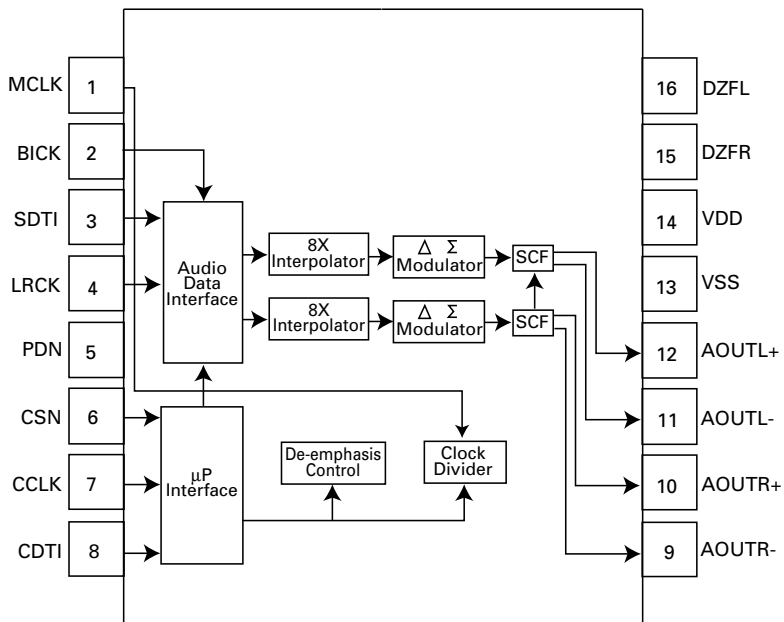
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* AK7716VTA



D

AK4382AVT

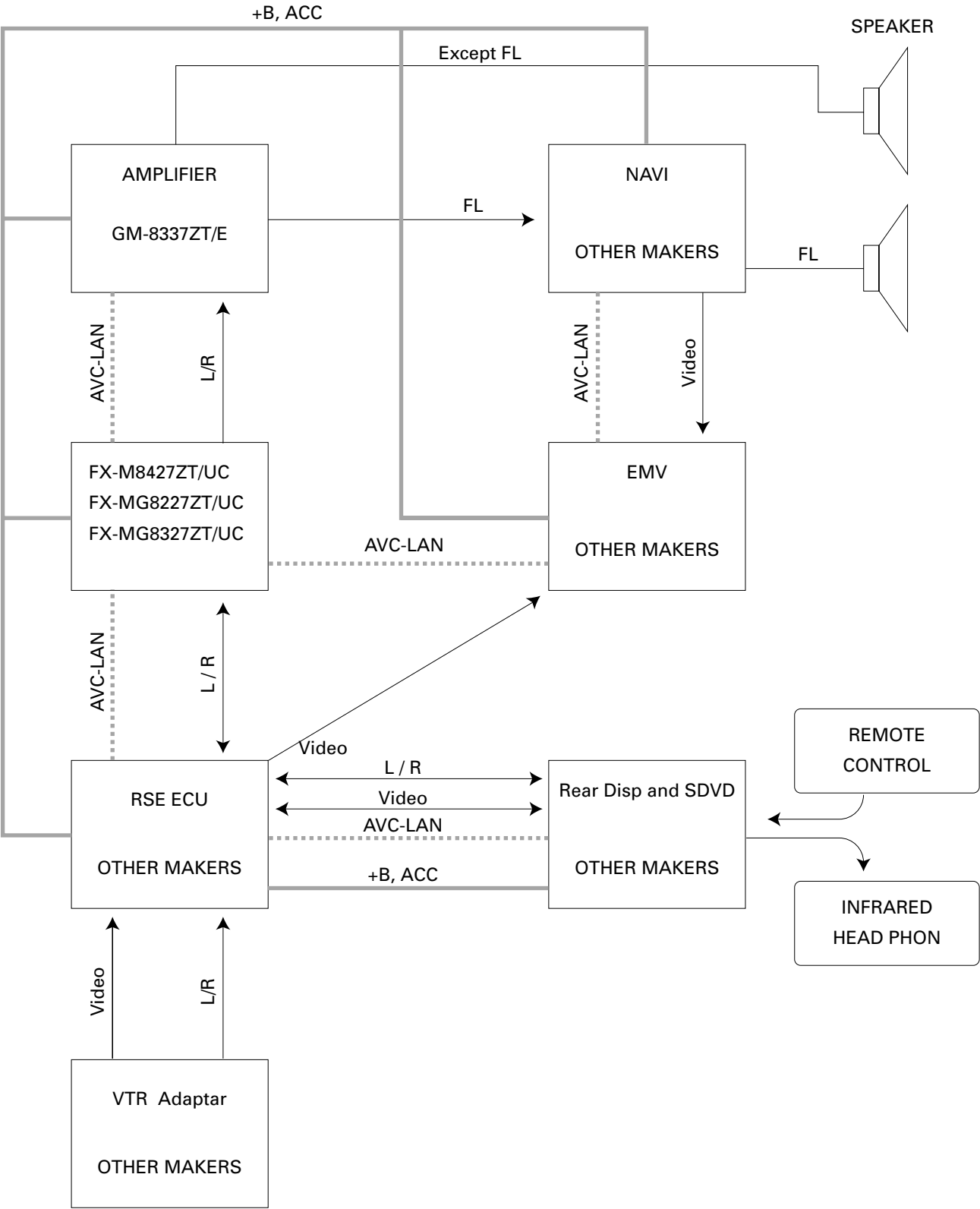


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7.3 EXPLANATION

7.3.1 SYSTEM BLOCK DIAGRAM



A

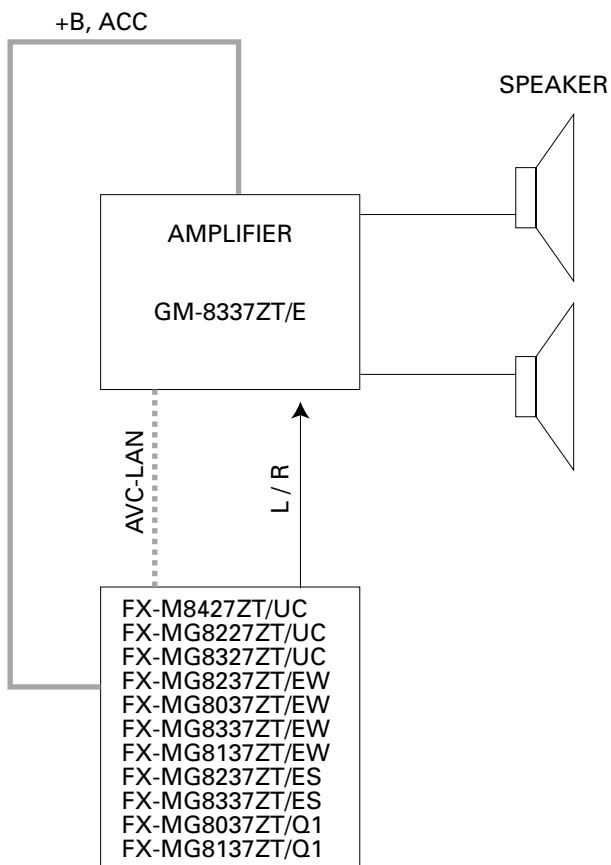
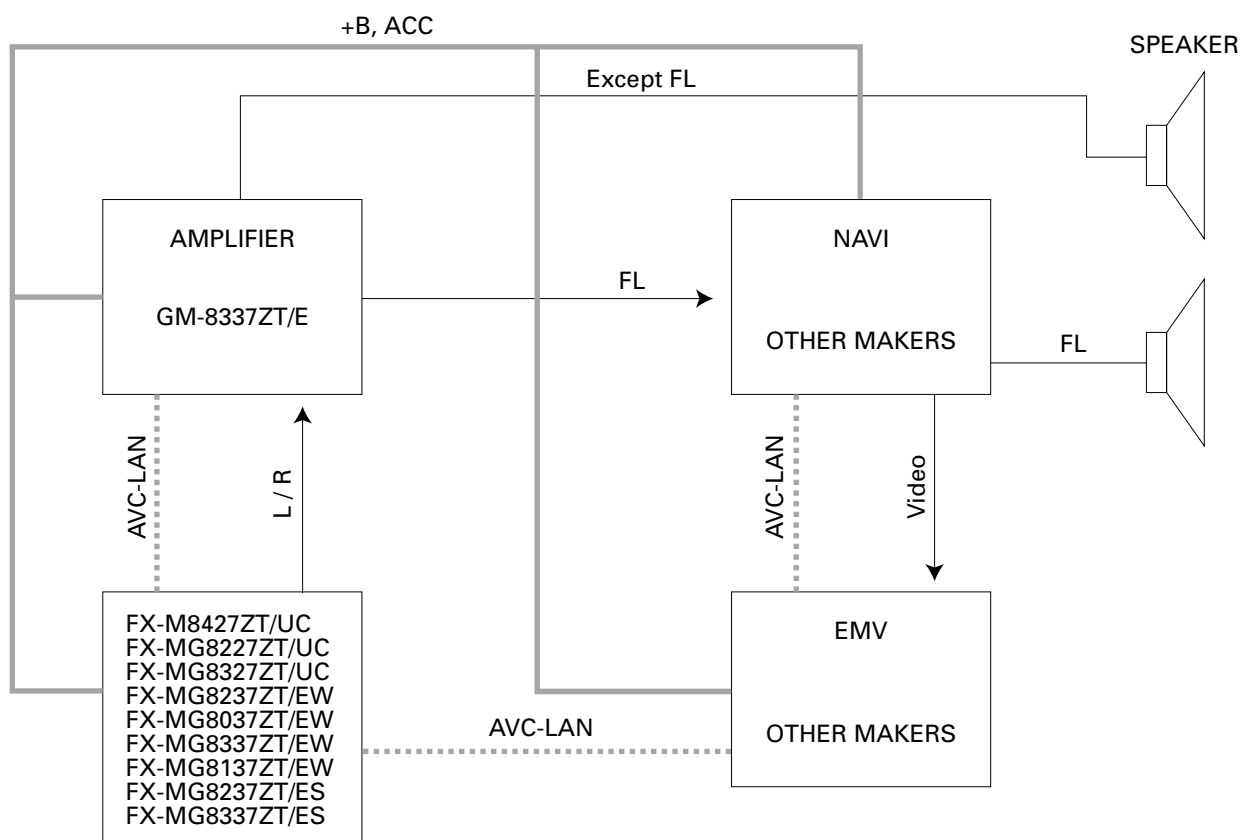
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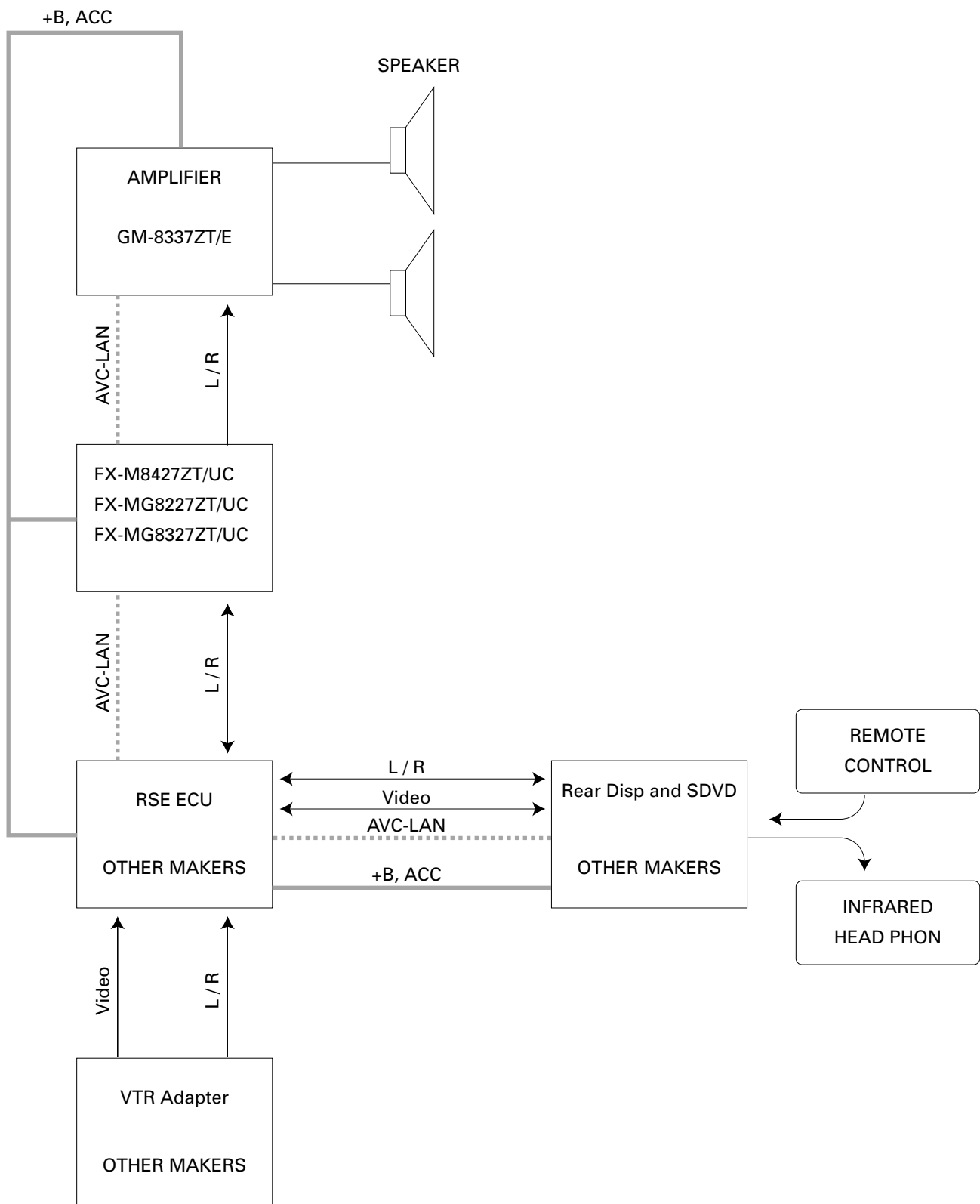
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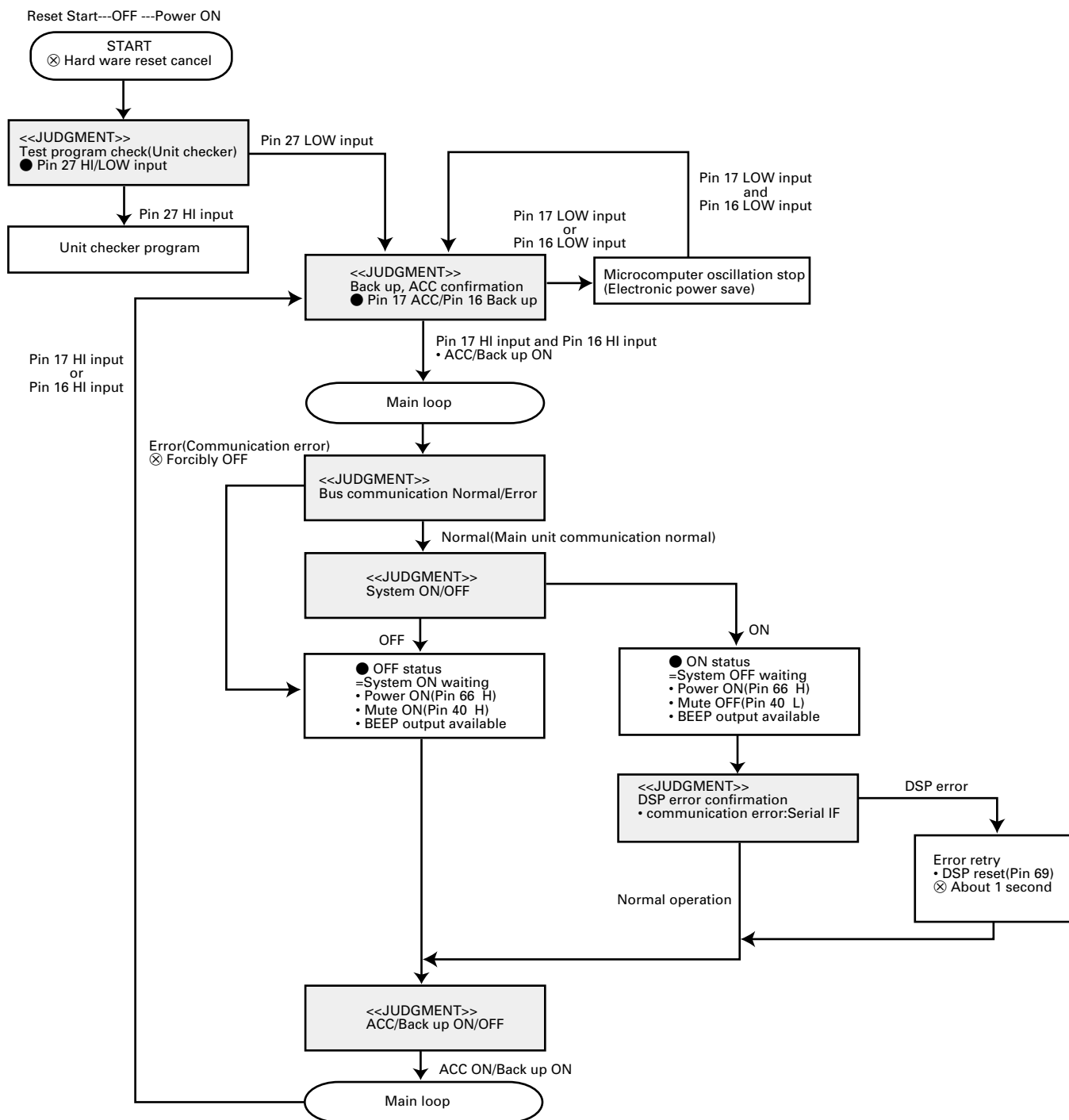
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7.3.2 OPERATIONAL FLOW CHART



● DSP error check (Normal)

DCRST(Pin69) ————— ← Hi : Stability

● DSP error check ---Error continuation

DCRST(Pin69) —————
 About 1S interval

8. OPERATIONS

There is no information to be shown in this chapter.

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